DOMESTIC ENGINEERING

Whole No. 983. Vol. LVII. No. 2. 443 South Dearborn St., Chicago. October 14, 1911

Competition From Mail-Order Catalog-Houses and Hardware Stores

This is a subject which agitates many plumbers and steam-fitters throughout the year, and which forms the basis of many discussions at conventions. Every one seems agreed that such competition by selling goods direct to the consumer is detrimental, but there is little agreement as to what steps have to be taken in order to meet it successfully.

The members of the trade generally assert that they are experts at their business, and that their specialistic knowledge should entitle them to first recognition by the public seeking goods installed by them. They are still believers in the fool idea propounded by somebody whose name had better be forgotten, that if a man can make a mouse-trap better than his neighbor, the world will pound out a beaten path to his front door. The man who wrote that did it in the woods, far out of reach of the sound of the trolley-car. It is human to think differently when we have a fishing-rod in our hands than when we are at our desks, endeavoring to make our check-book conform to our bank-account.

Competition has been said to be the life of trade. That is another piece of nonsense that should be shelved in the museum. It is interesting, but it is not true. Competition has proved to be cannibalism, brought to the highest stage of refinement. Instead of eating each other's flesh, we now devour greedily the lives and spirits of our neighbors. It should be understood that there is a distinct difference between competition and rivalry.

One of the readers of "Domestic Engineering" who is greatly interested in the subject under consideration recently presented his views of the case to one of our correspondents, and this we reproduce here as being of special interest at the present time.

"How shall we meet the mail-order and catalog-house competition?"

"How can we prevent the hardware-store from selling plumbing and heating goods direct to consumer?"

The above questions have been discussed pro and con for the past few years by manufacturers, jobbers and master plumbers. Strenuous efforts have been made by those most vitally interested to keep the plumbing business among the plumbing trade. Regardless of the efforts made along this line the fact remains: The plumbing and heating business is gradually mixing with the hardware line and is becoming a more important feature in the mail-order house-catalog every year. Such being the case, it would seem quite probable that those interested in the plumbing and heating business have been working along other than the proper lines. The wonderful development of the business during the past 10 years has opened up new fields and created a large demand for this class of goods in the rural districts, where few plumbers are located. The mail-order house, being particularly strong in these districts with its big general catalog, is quick to realize the demand and equally quick to arrange to supply it.

It is a recognized fact that the prospective purchaser of plumbing or heating goods or both, first goes to the nearest plumber or jobber. He is informed by the plumber that he must buy labor with the goods if he wishes the goods. He is informed by the jobber that it will be necessary for him to purchase the goods through some local plumber. If he wishes to purchase goods without labor, there is but one source left open for him, which is the mail-order house in case he cannot get what he wishes from the large hardware house. He who said, "Where there is demand there will be supply," really knew! From this it would appear that the logical method of removing the supply would be to first remove the demand.

Why would it not be a good idea for the plumber to meet his prospective customer as the merchant meets his customer and sell him anything he wishes to buy? In case he can't sell the labor he can still sell the goods and by so doing keep the customer from going to the mail-order house or hardware store. This would apply also in the case of the prospective buyer going to a jobbing-house. The jobber is always willing to protect the plumber by selling at a price that would cause the customer to prefer purchasing from his plumber. Very few jobbers have any lesire to sell direct to the user, as the average user is absolutely ignorant of the plumbing or heating business and naturally has troubles without number when he attempts to install the work. This causes trouble for the jobber also, as he has little time to give instructions on installation of plumbing or heating material and doesn't enjoy replacing goods damaged by ignorant handling.

Does it not seem very unreasonable for the plumber to refuse to sell an article on which he makes a liberal profit, just because he cannot sell his labor, on which his profit is usually much smaller? I am of the opinion that this is the most vital question confronting the trade today, and

I am very anxious to learn the views of "Domestic Engineering's" readers on the subject.

Trusting you will give my views to the trade through the columns of your paper and thanking you in advance,

I am,

A Jobber.

Analyzing the arguments presented above, there are placed before us prominently the three factors engaged in the triangular battle—the mail-order people, the hardware man, and the plumbing and heating man. Our correspondent assumes that there is a battle between the three. We, however, do not believe that we can dignify the conflict by the name of battle. It is, rather, a series of skirmishes between outposts, the pickets exchanging shots, doing more or less damage, and turning in a general alarm to the main bodies.

This is supposed to be a free country. Of course, we recognize that we are confronted with many actions which do not tend to support our belief in its freedom. We hear of apprentices who are relieved of $50 in order that they may pass their journeyman's examination. Some of them have paid more than that to join some union. We hear of masters who have handed contractors $200 or $300 in order to get a contract. Nevertheless, we still cherish our belief that this is a free country, and would fight to the last drop if a foreigner said it wasn't.

There is nothing in our constitution which prevents a man engaging in any trade or number of trades that he desires. As long as he pays his bills and conforms to the laws, he is supposed to be free to be a blacksmith this year and a watchmaker next year. He is supposed to be free to sell soap on one counter, fruit on a stand at the door, men's clothing at the rear of the store, and run a post-office from one window. In our consideration of the matter, therefore, we must not set up high fences round different trades and imagine that they are not going to be pulled down. Too many of the arguments are of this fence-restriction type. There are fences, of course, but these must be erected in the minds of the customers, and they are erected. The mail-order man has erected in the minds of his customers a fence within whose bounds the customer believes he can secure variety of choice and promptitude of service at reasonable prices.

The hardware man induces his customers to surround his business with a fence inside of which they will find variety of choice of domestic things, fair dealing, and prices as low as anywhere else. Neither the mail-order man nor the hardware man makes any attempt to create in the public mind the belief that they desire to install the goods that they purchase.

The plumber, on the other hand, and the steam-fitter to a less degree, has been encircled by the public with a fence inside of which labor is to be found first, and goods last. The purchase of the goods from the plumber is considered by the public to be a necessity to be tolerated. The customer mentally charges to the labor the price of the goods. He is not fair in doing this, but then the public is an animal of peculiar character, and needs educating badly.

Ask the average man on the street for his definition of a mail-order house and he will tell you that it is an immense business concern run on business-principles, doing business on a cash basis, capable of supplying everything from a needle to a white elephant. All mail-order houses are not like that, but they get the credit of it because of the immense amount of advertising that the word "mail-order" receives as a result of the aggressive business campaigns of the large and reputable ones.

Endeavor to get a definition of a hardware store and you will be told that the hardware man keeps everything that the house requires. He is regarded in the light of a domestic specialist. If nails are wanted, the boy is sent to the hardware store. The girl goes to the hardware store for an egg-beater. The man will think of the hardware store first for a gas-range, a cook-stove, a heating-stove, a hammer, a wrench, a saw, and any knicknack wanted to make the house more complete in its furnishings.

The plumber, on the other hand, has not yet received his proper recognition in the public mind. He is a joiner of pipes. He is a man to be called in when the faucets leak, or if the sink gets stopped up. He is a purveyor of labor, and the labor is considered high-priced.

The weakness, therefore, in the business is to be found in the public conception of the importance or non-importance of those engaged in the plumbing and heating industries. It is useless to bring forward as an argument that Tom Smith at Jerkwater Junction is the biggest man in the town and runs things his own way. Nor can we bolster ourselves up with the consideration of large well-financed firms which are powerful and aggressive enough to dignify the plumbing and heating business in their particular cities. Exceptions are exceptions, and we must be guided by the general plaint of the trade.

The plumbing and heating industries are confronted with new conditions. It is safe to say that 90 per cent of the business of the country is conducted on a price-making basis independent of labor-cost of installation. To make ourselves clearer on this, we would repeat that this volume of business is done with a distinct differentiation in the minds of the purchasers between the cost of materials and the cost of labor.

Millions of dollars are being spent annually to educate the consumer that he can buy certain things for a certain price. It is not to be expected that the plumber and steam-fitter, in their endeavor to keep abreast of the changing times, can long con-

tinue in keeping labor and materials under one charge.

The weakness that we see in the argument presented by "A Jobber" is that he assumes that the customer, after purchasing the goods, will go elsewhere for his labor. There seems to be a fear that if you sell a man a water-closet combination, he will ask you to wrap it up and carry it around the corner to some individual who will put it in for nothing. This fear is a confession of selling-weakness. Surely, if a man has given his customer sufficient confidence that he is the right man to purchase a water-closet combination from, there will be enough confidence left over to enable him to sell the labor also. We saw a case in point the other day, where a man went into a hardware store to purchase material for a home-made fire-guard. He bought four pieces of pearl netting, cut to the size he required by the hardware man. He also bought 7½ lb. of copper sheeting, cut in strips to the size that he required for binding the netting. He then purchased copper rivets and brass hinges for joining the fire-guard sections. After paying for these, the customer was asked by the hardware man what he was going to do with the material. He told him that he couldn't afford to buy a brass fire-guard for $30 or $40, and he thought the home-made screen of this type would look better than a common wire-screen and would have the same effect as the brass screen. The hardware man then asked him if he didn't want him to put it together for him at a labor-charge of 65 cents an hour, and the way he asked him was diplomatically "cute." He said: "Do you want the bother of knocking that thing together, or shall we do it for you?" The customer said: "Well, if you can do it for a reasonable price, you may as well do it." The hardware man replied: "It's just a question of labor. We have not made one of these fire-guards before, and it is evidently your own original design. You give us the instructions and you can get it made exactly the way you want it, at 65 cents per hour for labor charge." It took five and a half hours to put that screen together, and it looked a good solid workmanlike job when it was finished. You couldn't convince that customer that he didn't save considerable "bother" by giving the job to the hardware man, for an ordinary customer has a dread of five and a half hours' continuous work as a side-issue. Furthermore, he knows that he couldn't have done as good a job.

The whole thing resolves itself ,therefore, into a question of business management and selling ability and tact. There is no doubt in our minds whatever but that plumbers and steam-fitters must take immediate steps to educate the public that they are merchants, not only of labor, but of materials also. They must adopt some of their opponents' tactics. Their store-windows should be filled with domestic sanitary fittings. Their front-door should have its hinges constantly oiled, so that customers may not find it difficult to inspect the counter-display seen plainly from the outside of the store. The store should be in charge of some one who has a business instinct. It should not be left in charge of an irresponsible cigaret-smoking boy, or the novel-reading simpering high-school girl who is holding down her job because she happens to be a relative of the family. The store is either a trap for business or it isn't. If it is not, it is cheaper to run the business from the private residence of the tradesman, and to take special customers to a first-class hotel or club, where surroundings can be found far superior to four walls and a bath-tub.

At the present time, we are only endeavoring to outline some of the essential points to be noted in the consideration of the subject. The trades are making progress in public esteem, though not with the rapidity desired and often by a circuitous route. In another issue we will offer suggestions for profitable effort to offset what is now considered undue competition. In the meantime, we will be glad to hear from our readers who are interested in this matter.

OPEN MEETING OF THE MASTER PLUMBERS' ASSOCIATION OF TROY, N. Y.

The Master Plumbers' Association, of Troy, N. Y., held an open meeting at its rooms in the Keenan Bldg., on Wednesday evening, October 4th, which was largely attended. President Martin Mulligan presided and delivered a fine address of welcome to those who were in attendance. Among the out-of-town guests were State President John H. Moran, of Albany, N. Y., who was making his official visit, and State Secretary James H. Doody, as well as Thos. F. Nolan, president of the Albany local association, T. E. Kerwin, chairman of the legislative committee of the New York State Association of Master Plumbers and Past State President John E. Dugan, all of Albany, N. Y., and Vivian Gray, of Watervliet, N. Y., president of the local association of the latter city.

At the conclusion of the business meeting, adjournment was taken to the New Troy Hotel, where a chicken-dinner was served and a general good time enjoyed until a late hour.

At the dinner President Mulligan presided as toastmaster, and made a most interesting address. In announcing the several speakers, he also introduced many witty remarks which greatly amused the diners.

The toasts and those who responded were: "The New York State Association," State President John H. Moran; "The Legislation of 1911," T. E. Kerwin; "The Secretary's Troubles," State Secretary James H. Doody; "The Albany Local," President Thos. F. Nolan; "The Watervliet Local," President Vivian Gray; "The Need of Local Loyalty," Secretary William F. Quinn, of the Troy association; "System in Business," John E. Dugan; "The Old-Time Plumber," James P. Howard. Impromptu speeches were made by William Kennedy, S. J. McNamara and others. Altogether, the meeting and banquet proved most profitable and enjoyable to all present. There was every evidence that the Troy local is alive, and that the next report of its membership will show a gain of close to 100 per cent over that of the last report. The local is fortunate in having capable and active executive officers in President Mulligan and Secretary Quinn, and the latter, in having the support of a progressive membership.

QUESTIONS AND ANSWERS

THE HORSE-POWER QUESTION.

Editor "Domestic Engineering":—I noticed in the issue of Sept. 16th a clause in the answer to the question "What Does Horse-Power Signify?" which read "About 2 lb. of fuel are required per h. p. hour."

This is setting a rather high standard of performance, certainly above the average. There are some classes of steam engines that will develop one h. p. on 2 lb. of coal consumed at the boiler, and some even below 1.5 lb. but they are scarce. A condensing engine in good condition will require 2.5 to 3.0 lb. of coal per h. p. hour and a simple non-condensing engine from 3 lb. up (mostly up) depending on conditions.

There is a difference, unfortunately, between a horse-power developed at the boiler and a horse-power at the engine. Ordinarily it requires more coal to develop one boiler h. p. than one indicated h. p. at the engine, due to this difference between b. h. p. and i. h. p. Also different coals have different heat contents, so it will require more of some than of others to develop a given amount of work.

One boiler h. p. is equivalent to 34.5 lb. of water per hour evaporated into steam from and at 212 deg. F., or 33,479 B. t. u. A steam-boiler having an efficiency of 65 per cent and using coal containing 11,000 B. t. u. per lb. will develop one b. h. p. on

$$\frac{33479}{11000 \times .65} = 4.7 \text{ lb. of coal.}$$

This amount will vary with any difference in the heat content of the coal, or the efficiency of the boiler.

A fairly well built engine will use about 17 lb. of steam per h. p. hour, with probable possible limits of from 10 to 35 lb., depending on the style and condition of the engine. Since one b. h. p. is 34.5 lb. of steam per hour, then a fairly well equipped plant will require one horse-power of boiler to two of engine, or a 50 h. p. boiler will supply steam for a 100 h. p. engine. In this case if 5 lb. of coal per hour developed one b. h. p., 2½ lb. would be producing one h. p. at the engine. If the engine was a simple slide-valve affair it might require 30 to 35 lb. of steam per h. p. hour, so that double the boiler capacity, or 100 b. h. p., would be required to furnish steam enough for this 100 h. p. engine. Five lb. of coal would then be required per h. p. hour.

Buffalo, N. Y. Frank L. Busey.

CONCERNING THE UNUSUAL JOB.

Editor "Domestic Engineering":—Referring to the unusual job mentioned by N. R., of Milwaukee, Wis., in the September 30th issue of your journal, I would like to say that it seems to me that his question is not very plain. I think he will find that the waste from the sink is connected into the drum-trap. This would cause the waste-water from sink to back up into the tub. If the owner wants the plumber to take up the floor he can make this connection the way it should be made. If the owner does not want the floor taken up, the plumber can find out what the trouble is by testing the sink. Fill the sink and see if the water when let out does not back up into the tub. If not very much expense is wanted, I would suggest the use of a rubber-stopper with a metal top on the bath-tub and weight this plug by putting on some solder or other heavy metal. It might also be well to suggest to the owner that he keep the tub plugged, that is, always keep the bath plug in tub, only take it out when tub is to be emptied.

Minneapolis, Minn. M. C.

A BETTER WAY TO INSTALL TWO SINKS.

Editor "Domestic Engineering":—A short time ago I was sent out to put in a one-piece sink (that is a sink and back all in one piece); same was to have only one faucet for cold water. I went ahead and connected this up in the usual way, ran the pipe straight up and came

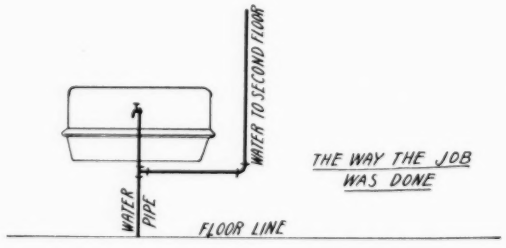


Fig. 1.

out with my street elbow, and attached the faucet, but just before I got done the owner decided that he also wanted a sink directly over this one on the second floor, so I put in a tee under the sink, ran over to the end of sink and then continued on up and made the best-looking job that I could. (See Fig. 1.) Now, can you tell me of some way that this job could have been done better?

St. Paul. M. C.

We would not put tee under sink and then run to end and up. We would suggest that you go straight up with

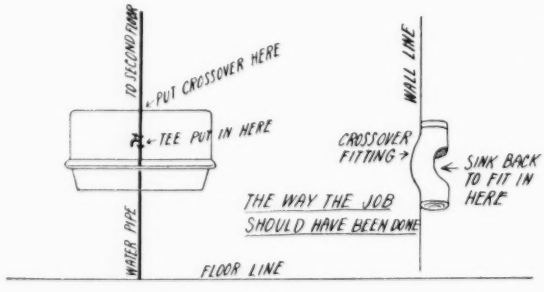


Fig. 2.

your pipe. This could be done by using what is called a cross-over. In this way you would not have to cut the sink back, but would cut a little into the wainscoting, and you would have a better-looking job than the way you put it in. (See Fig. 2.) You would also save a little on material.

WHERE IS THE SIPHON?

Editor "Domestic Engineering":—I have been putting in plumbing work now for about 25 years and I never yet saw a range-boiler siphon. Where is there such a thing as a siphon about the job, anyway? I wish that you would explain it to me through your paper.

Kansas City, Mo. T. O. Pearson.

The correspondent probably is aware of the fact that a siphon has two legs, or arms; one longer than the other. The siphon is shaped like the letter U, only with one side longer. The siphon on a range-boiler hook-up is somewhat irregular in shape, but the action will be equally effective. Start with the cold-water drop-tube that is located on the inside of the range-boiler. That answers to the short leg of the siphon. Now this tube is a continuation of the cold-water supply, which begins at the cellar-wall. There you have the siphonic apparatus all ready for business, unless it is safeguarded. This can be done by punching a small hole in the drop tube about three inches from the upper end near the top of the range-boiler. If such means are not desirable what is known as a vacuum valve can be used.

LOCATION OF INDIRECT RADIATOR REGARDING AIR-PIPES.

Editor "Domestic Engineering":—When having the choice in locating an indirect radiator, which is the best plan—to locate it so that it has a short pipe from the radiator to the room, and consequently a long cold-air pipe; or a short cold-air pipe with a long hot-air pipe; or to put it so that the hot and cold-air pipes will be about the same length? We had an argument about this matter in the shop and wish that you would decide the matter.

St. Louis. John Parsons.

It is conceded that the pipe which leads from the indirect radiator to the room should be as direct and as short as may be possible. Favor the hot-air pipe all you can. In case that it is necessary to run it in the cellar for some distance, see that it has an upward pitch and, if of metal, the pipe should be covered with some good non-conductor of heat.

ADDRESS WANTED.

Editor "Domestic Engineering":—Please furnish me with the address of the firm making the P. P. heater. This heater is attached to a live steam pipe and then piped to the hot-water tank, taking the place of a range water-front or gas hot-water heater. G. P. G.

We should be glad to hear from any of our readers who can supply the desired information, which we will publish in this department for the benefit of all interested in heating supplies.

LETTER RETURNED.

F. C. Black, General Delivery, Princeton, Ind., can have reply to his inquiry of September 14th by applying to "Domestic Engineering" for the letter which has been returned to us from the Princeton post-office.

It Pays to Advertise.

Several weeks ago a Kansas editor advertised the fact that he had lost his umbrella and requested the finder to keep it. He now reports: "The finder has done so. It pays to advertise."—Kansas City Journal.

PROPER CARE OF FIXTURES IN PUBLIC TOILET-ROOMS.

By P. W. Blair, Decatur, Ill.

Some time ago "Domestic Engineering" published an article from the plumbing inspector of Erie, Pa., advocating the use of battery or lateral closets in factories in place of the individual closets, owing to the cost of repairs due to carelessness. This article has prompted me to offer some suggestions in favor of the individual-closet installation, showing how some of the cost of maintenance may be reduced.

A toilet-room in a factory or public building should be furnished with the best equipment and of durable materials, capable of standing much usage.

Note the difference in condition between a well equipped up-to-date toilet-room in a modern building, and one in which the sanitary arrangements are old-fashioned and out of order. The public appreciates the first, and instinctively gives it the same consideration a private toilet-room would receive, but the dirty, ill-ventilated, shabby room, with woodwork cut up and defaced walls, is apt to receive less care from the users.

Many people, especially the class for whom factory and railroad toilet-rooms are provided, are not accustomed to sanitary conveniences in their homes, and much of the damage done is due to ignorance or thoughtlessness of the rights of other people. For this reason, I suggest that owners would save much annoyance and a large share of their repair bills, by educating the public. A neatly-framed, clearly-printed, carefully-worded notice, has been found to have a perceptible effect in this direction. As a suggestion, I submit the following:

Notice.

For the comfort and convenience of the employees (or tenants or public) we, at considerable expense, have provided nicely equipped toilet-rooms in this building. Modern sanitary fixtures make it possible to keep these as clean and free from odors as an office, if you do your part.

Do not throw matches or refuse of any kind into the closets but deposit it in the receptacle provided. This will save you inconvenience and us unnecessary expense.

Writing on the walls, spitting on the floor, or damaging our property in any manner constitutes cause for arrest. (In a factory, "for immediate dismissal.")

The personal comfort you derive from well-kept toilet-rooms should prompt you to report any known infraction of these rules. (Signature).

This notice, with the necessary changes, is applicable to factories, department-stores, office-buildings or railway stations.

I have seen the benefit of such a notice in a factory employing more than 800 people, and the results were certainly surprising. Much of the damage done is through carelessness or ignorance, not deliberate maliciousness, and an ounce of education will save a pound of repairs.

Why It Was White.

Mary had a little lamb;
Its fleece was white as snow.
She washed the lamb with Umpsky's soap;
That's how she kept it so.

—Milwaukee Sentinel.

Climbing the Ladder

By "Noswad"

Chapter III.

Monday morning saw me on the electric cars for downtown. I bought a morning paper and found a certain Mr. Jacobs required a plumber.

The address was close to the foreign settlement, but I determined to go and investigate. I found a nice plumbing-shop and a very suspicious man at the head. Did I know my work; could I fill the bill? You bet I could. He would like to see one of my jobs. This was great! "Sure he could if he would come six or seven miles out on the cars." He was one of that class to whom a dime is a dime, so he did not go.

He bickered about the wages and when that was settled told me to wipe a 4-in. lead bend onto a ferrule. This was something new to me. I half thought I did not want the job so very badly after all; however, I was feeling pretty good, so entered into the humor of the thing. He found some tools and I jumped into that joint and wiped it in short order.

I got my kit and returned at noon, ready for work, wondering what kind of a job I should strike in such surroundings. I struck it all right, as you will see. He took me to a tenant house a couple of blocks away and gave me instructions about a bath-room.

The smell of garlic was strong enough to knock one down. I figured my way for the stack and commenced to raise it, got half way up and had to go through a closet. I went into the closet and began to cut through the floor when I disturbed a regular nest of vermin; they swarmed over everything. I got out just as quick as I could get. I was no "pioneer sanitor" sure!

"Gee!" said I, when I was a safe distance away, "that was quite an experience, but no more such experiments for mine, not even for fun!"

My next job was a good one with a steam-fitter. I stopped with him some months and was sorry when work gave out, for he was a fine fellow and a first-class mechanic. I learned a number of kinks from him, of which I will write later.

I traveled to another town and found a plumber who said he had all kinds of work. I soon found his "all kinds of work," was two houses to be roughed-in and a number of repair jobs. He took care of the repair work and I commenced work on the two houses.

This man carried very little stock. We scared up enough pipe for both jobs and about half the fittings; the remainder, as the job progressed, he either borrowed or bought from neighboring plumbers.

The stocks, dies and cutters he had were about the worst ever: and the vise, which had no stand and had to be fastened to a studding with lag screws, must have been a great grandfather, for it had lost all its teeth, and the only way I could cut the water-pipe was by rigging up a cross-bar to hold the end of a wrench which I placed on the pipe to keep it from turning.

It is a wonder a fellow does not get more leaks than he does with such tools. If it were not for the weight of stock, dies and vise, it would pay a man to buy these tools and add them to his kit of wrenches, hammers, chisels, etc., but they are too heavy for any one to lug around the country. At this time I was like the "Wandering Jew," here, there and everywhere. But, say, doesn't a man pick up some experience in this way that more than repays him for his wanderings and discomforts when he does settle down?

A little while ago I saw in your inimitable journal that one correspondent said it wasn't necessary for a good mechanic to leave his own town and that his particular town was good enough for him.

His lines had evidently fallen in a pretty smooth place, but I would lay a heavy bet on the man that has traveled some for knowing the tricks of the trade, for he bumps up against all kinds of men and every variety of work. It would have to be a tough proposition to make him lay down.

I finished up the job in the two houses, then I had to hunt another job. They all seemed to be just "jobs" at this time, nothing steady; just my luck, I suppose. I looked around and found work the next day. There was a bunch of small repair jobs in the shop. One was replacing a kitchen sink. The old sink I took out was an old-fashioned affair, with a closed-in cupboard. The wood was all rotten with the water that had been soaking into it for years. I cleared out the old rubbish along with the usual complement of silver water-bugs and put up a 20x30 enameled sink with back, on brackets.

Jobs like this and replacing old closets with new ones, also unstopping closets and drains, are the seamy side of plumbing and at times a fellow wishes he was something other than a plumber, but one cannot always pick and choose.

When the repair work had almost given out, the boss obtained a bath-room job. I remember it was in the living-rooms over a shoe-store. I got this job finished and tested out by Saturday evening, and called in the shop for my pay as usual. It was handed out to me $3 short, and I was let out, with the information that there was no more work in sight. He also said I could have the other $3 the next Saturday night if I would call round for it; a pretty likely tale.

It was six miles from my rooms, so I asked him to give me an order on the shoe man for whom I had put in the bath job for a pair of shoes for that amount. This he did. I went back to the shoe-store, presented the order and was fitted with a pair of shoes. They were packed up and I was just going out of the store with them under my arm, when the kid from the shop came running in, all out of breath, and told the shoe man not to give me the shoes; but I had already got them, and I intended to stick to them, so I told the kid to go to the devil and cleared. It was a close call for my hard-earned $3, for I realized that I should not see the color of the money if I left it over until the next week, and the boy coming after me, after the boss had time to think, convinced me I was right.

Here are one or two peculiar leaks I have dropped across at different times: I had just finished a bath-room and left everything, as I thought, okay, when I was summoned back to locate a leak. The leak was there sure enough. The water was running merrily into a wash-tub right off of the end of the chandelier; not a wet spot showed on the ceiling, which had just been newly papered; what had happened? Surely, I had not hooked up to the gas-pipe with the water-pipe? Upon examination I found the gas-cocks were all closed tight

and the water was coming down inside of the casing, but how and where from was a mystery.

I went up into the bath-room and looked ruefully at the floor, expecting it would have to be torn up. I could not understand it at all, as I was quite convinced everything had been perfectly tight when I tested the roughing-in, both wastes and supply-pipes. I examined the joints above the floor, but could not discover a leak, and was about to tear up the floor when I noticed the slip-nut on the hot-water supply-pipe to the bath-tub was tight down on the spun floor-flange. I shut off the water, unscrewed the nut, and found the inside edge of the flange had been caught in the thread of the nipple; this prevented the slip-nut from drawing down tight on the gasket. I took off the flange, cut it down a little, screwed up the slip-nut, and that settled it. The reason I could not see the leak was because the flange was tight against the floor and the leak was inside. Ever since then I have been careful to have at least half-an-inch between the flange and slip-nut.

Another time I went to look for a leak in the bath-room in a block. The owner said there was a bad leak under the floor. It certainly looked like it; the ceiling underneath was wet and the paper badly damaged. Before taking up the floor I located the stack and supply-pipes and also the fixtures. The nearest fixture was two feet away from the wet place on the ceiling below and all the pipes ran in the opposite direction. I was nonplussed, but there is no accounting where water is going to show itself on the ceiling below. I took up a board and traced the water in the direction of the partition, away from all the fixtures. It certainly was not from the plumbing. I remember there had been quite a storm during the night, so I climbed up under the roof and there found a hole in the roof right over the partition of the bath-room.

(To be continued.)

PACIFIC COAST COMMENTS.

San Francisco.

J. L. E. Firmin, secretary of the master plumbers' association, of San Francisco, is engaged in preparing an exhaustive report on the condition and extent of the plumbing in all of the public buildings, theaters, parks, urban and suburban pleasure resorts, and all other buildings of a public or semi-public character in and about San Francisco. This report will be submitted to the sanitary committee of the National Association of Master Plumbers, accompanied by a recommendation from Secretary Firmin as to the improvements and reforms which he deems necessary from a standpoint of public policy. Upon this report and other similar reports from various cities throughout the country, will be based a series of recommendations for improved standards of plumbing work and equipment in public buildings which will be presented to the United States Public Health Service by the master plumbers' national organization. Mr. Firmin's report will be finished in a short time, as he has already devoted more than a month to its preparation. He states that his personal inspection of the plumbing in most of the public buildings in this city has convinced him that the need for reform is not so extensive in San Francisco as in some of the other large cities of the country, due probably to the fact that most of the large buildings of this city are of recent construction.

Little change was apparent in local business conditions during the last week. Jobbers are optimistic about prospects for the late fall and winter, but the late season work has not yet commenced. San Francisco had its first rain since last spring during the week, but the clouds lingered for only one day and a season of Indian summer has followed in their wake.

The Board of Public Works opened bids during the week for fixtures for the Hall of Justice. The John G. Sutton Co. put in the lowest bid for turbines for the San Francisco hospital, its proposal on one proposition being $21,058 and on another $19,544.

Lettich Bros. have been awarded the contract for installing the plumbing in a new five-story brick and concrete apartment-house at the southwest corner of Bush street and Chelsea place. Angelo Baldocchi is the owner. The contract price is $7,974.25.

The Robert Dalziel, jr., Co. has been awarded the contract for plumbing and gas-fitting in a new building at the corner of Van Ness and Austin avenues, owned by Robert and W. W. Coulter.

The Phelan Improvement Co. has let a contract to the Asbestos Supply Co. for the insulation of air-ducts, hoods, smoke-flue, steam-piping, etc., in the Phelan building at the corner of Market and O'Farrell streets. The contract price was $1,325.

William S. Snook & Son have been awarded a contract for plumbing, gas-fitting and steam-heating in the two-story and basement brick building on the west side of Marshall square, extending from Market street to City Hall avenue. The cost will be $4,290.

The heating and other mechanical equipment of the new 10-story apartment-house which will be erected as an annex to the St. Francis Hotel will be operated from the main plant in the St. Francis. Plans of the architects have been approved and working drawings are being prepared.

Engineer F. Von Schrader, chief quartermaster, U. S. A., will open bids in his office in the Chronicle building on October 18th for the construction of a complete sewer and water system for the temporary buildings at Camp Yosemite in Yosemite Valley.

Elsewhere on the Coast.

Los Angeles, Cal.—The Hammer-Bray Co. has bought out the stove department of the Hoffman Hardware Co. The hardware department of the same company has been taken over by the Pacific Hardware & Steel Co. A new catalog of heating stoves recently issued by the Hammer-Bray Co. presents in an attractive manner the company's new lines of heating apparatus. Frank Albright, treasurer of the company, is manager of the local store at 11-15 First St.

Beaumont, Cal.—C. E. Smoot announces his intention to open a plumbing and hardware business in the Thomas building.

Corcoran, Cal.—Theodore Mutsch is engaged in constructing a 3,000-gal. tank to be used on the ranch of Mrs. A. Ryan, three miles west of here. A hydraulic ram will be installed in an artesian well and the tank will be kept full by this means.

Escondido, Cal.—The board of trustees of the Escondido school district has opened bids for removing a hot air furnace and installing a brick-set school-house heater of size and capacity sufficient to supply 200,000 cu. ft. of air, heated to 75 deg. per hour during the coldest weather. The specifications call for a grate surface not less than 20 by 80 ft. in dimension. The award of contract has not been announced.

Riverside, Cal.—The park board has awarded a contract for supplying galvanized pipe for playground apparatus in Fairmont Park, to T. M. Cunniff, whose bid was $327.50.

Sacramento, Cal.—The Pacific Gas & Electric Co. has let the contract for plumbing in its building in the block bounded by M, N, 28th and 29th streets, to H. W. Mott & Schoenbacher. The contract price was $1,038.20.

Oakland, Cal.—The master plumbers have been conducting a number of what they term "revival" meetings recently for the purpose of reviving interest in the local organization among its members. These meetings have been largely attended.

Biggs, Cal.—Plans for the construction of a new grammar school have been completed by Architects Parker and Kenyon. There will be a plenum system of heating. Bids will be opened by the school trustees October 23d.

Santa Monica, Cal.—E. P. Nittinger, a plumber, was here recently, making a short stay. He stated that a number of improvement projects are being planned for that summer resort and that business in his line was quite active.

The New Plumbing Ordinance for Galva, Illinois

The progressive city of Galva, Ill., has just passed an ordinance to regulate the installation of plumbing and sewer-connections. In several respects this ordinance is a model one, thoroughly up-to-date, wherefore we take great pleasure in reproducing it herewith in full for the benefit of our readers. In this connection it will be of interest to remember that Galva has a population of about 2,500.

An ordinance to regulate plumbing and the method of making sewer connections.

Be it ordained by the City Council of the city of Galva, Illinois.

Section 1. Any person desiring to engage in or work at the business of plumbing in this city, either as master plumber, employing plumber or journeyman plumber, shall first obtain a certificate from a board of examiners or from some other similarly constituted board, as provided by the statutes of the State of Illinois, and all such plumbers, except journeymen plumbers, shall, before beginning work or business in this city, present such certificate to the City Clerk and file with said clerk a bond in the sum of $500, with two or more sureties approved by said clerk, conditioned to indemnify and save harmless the city of Galva from all accidents or damages which may be caused by any negligence or inadequacy in the execution or protection of any plumbing or drainage work which he may do in this city and that he will comply with all requirements and regulations of this city pertaining to the business of plumbing or drainage; all such bonds shall be renewed between the first and tenth days of May in each year. All plumbers shall, before beginning work or business in this city, present their certificates to the plumbing inspector and register with him and shall renew such registry between the first and tenth days of May in each year.

Section 2. A permit for the drainage of any building, public or private, or for alteration in the existing system of drainage, shall be obtained from the plumbing inspector before entering upon any work. Application for permits shall be made separately for each building and shall be accompanied by the respective drawings giving the entire plans of the house-sewer and showing proposed connection with the main-sewer and one or more sections showing the location of each separate fixture. Such drawings or descriptions shall be made in accordance with rules laid down by the plumbing inspector. No material deviation from permit and approved plans will be allowed. Whenever any material change is to be made in the work, a new application shall be made, the fee made on the old application to be applied on the new. The fee for a drainage permit shall be $1 for drainage work, costing $100 or less and $1 additional for each additional $100 or part thereof. All fees shall be paid to the plumbing inspector.

Section 3. A permit shall be good for one year from the date of issue. If the work is not completed within that time, the permit shall be returned and a new one issued. Permit for inserting a junction in the main sewer or making a connection with the same shall be obtained in writing from the plumbing inspector and countersigned by the city engineer. Permits shall be acted upon within 24 hours after filing of application, when practicable, and in no case shall there be a delay of more than six days.

Section 4. All permits shall be returned within 24 hours after the completion of the work and before certificate of inspection is issued. All permits shall be issued in duplicate, numbered consecutively and dated. One copy shall be kept on file in the office of the plumbing inspector.

Section 5. The system of sanitary sewers is designed to carry off sewage and sub-surface drainage only; the term "sewage" as used in this chapter means discharge from water-closets, sinks, basins, bath-tubs, urinals, laundries, manufacturing establishments and all liquid matter that would be deleterious to health if left upon the premises. No surface or storm water shall be drained into the sewer. No person, persons or corporation shall use, directly or indirectly, any house-connection with sewer by discharging into such house-connection or sewer any offal or garbage, straw, dead animals, vegetable, table or other refuse, cloth, rags, wood, corks or anything not intended to be carried by the sewer.

Section 6. In the business district each building shall be separately and independently connected with the main sewer where one is provided, and in the residence district all residences on any one lot may connect with the same Y to the main sewer where one is provided.

Section 7. The main sewer drain when 4 ft. or more from the building shall be of cylindrical, glazed, vitrified-tile of the best quality, free from splits or other imperfections, spigot and hub ends to be concentric. It shall not be less than six in. inside diameter and ½-in. thick. It shall slope uniformly ¼-in. to each foot of run from the building to the street sewer. It shall rest on a smooth and solid bottom with the ground hollowed out for hubs and the soil rammed on each side of the pipe.

Section 8. The joints shall be made tight with equal parts of Portland cement and sand mixed dry and enough water to give consistency. The cement shall be mixed in small quantities and used immediately; no retempered cement shall be used. All joints on the inside shall be cleaned out with swab or scraper. All changes in direction, either vertical or horizontal, shall be made with ⅛ or ¼ curves and no "T" connections will be allowed.

Section 9. The trench shall be left uncovered until the work has been inspected by the plumbing inspector. The city of Galva will furnish an inspector to look after the work of laying house-connections, at the request and expense of the plumber.

Section 10. When a slope of ¼-in. to each foot of run cannot be obtained, or when the ground is newly made or of yielding nature, and also for that part of the house-sewer which is under the building and extending 4 ft. beyond the wall-line, the sewer shall be constructed of material similar to that required for soil-pipe. No iron sewers shall be permitted with less slope than ⅛-in. to the foot. When the house-connection and soil-pipe runs along the outside of a foundation and within 4 ft. or less of the building-line of residences, stores and other closed buildings where people congregate, the same must be laid with cast-iron soil-pipe. Provided, that for open factory buildings and stables earthenware sewer-pipe may, with the consent of the city council, be used.

Section 11. When the sewer passes through a new wall, the wall above shall be left two inches clear by arching or flagging over to avoid danger from settling. The sewer under a house may be in a trench and covered over, or it may be supported on piers from joists above the floor, to the satisfaction of the inspector.

Section 12. Vertical soil-pipes shall be of extra-heavy cast-iron, 4-in. inside diameter, coated, while hot, both inside and outside, with asphaltum or tar, or 4-in. galvanized iron pipe of standard weight. They shall extend through the roof for ventilation not less than eight in. If receiving a discharge from more than 10 water-closets and 10 other fixtures, or the equivalent thereof, they shall be increased in size as required by the plumbing inspector. All branch soil-pipe 15 ft. or more from the main stack shall extend separately through the roof of the building or connect with the main stack into the increaser under the roof. In no case shall any stack (waste or soil-pipe) be run along the outside of the building. Whenever such case becomes a necessity, special permission shall be obtained by an act of the city council and then such stack must be properly protected from the frost.

Section 13. All cast-iron pipes must be sound, free from holes or cracks and of a grade known to the trade as extra-heavy. The following weights per lineal foot will be accepted as complying with this chapter:

Two in., 5½ lb.; 3 in., 9½ lb.; 4 in., 13 lb.; 5 in., 17 lb.; 6 in., 20 lb.

All fittings used in connection with such pipe shall correspond with it in weight and quality.

Section 14. Standing waste-pipes shall be 2 in. in diameter, unless receiving the discharge from more than five fixtures; they shall be increased one inch in diameter for each five or less additional fixtures; in other respects the waste-pipes shall be similar to the soil-pipes. No waste-pipe or trap for any fixture shall be of less internal diameter than the following schedule: Wash-basin, 1¼ in.; bath-tub, 1½ in.; urinal, 1½ in.; kitchen-sink, 1½ in.; slop-sink, 2 in.; laundry-tray, 1½ in.; water-closet, 4 in.

Section 15. Before extending through the roof, the soil and waste-pipes shall be enlarged 2 in. in diameter. Soil, waste and vent-pipes must be carried above the roof of the main building when otherwise they would open within 15 ft. of the windows or doors of adjoining buildings.

Section 16. There shall be a 4-in. clean-out placed on the inside of the wall of the building on all runs of soil-pipe for inspection purposes, and this shall be brought up to the level of the basement floor and a hand-hole with cap screw shall be provided at or near each change of direction in the main house-drain. When the vertical pipe is more than 30 ft. in height, it shall rest at the base on a pier foundation acceptable to the inspector. Pipes shall be supported on pipe-rests as directed by the inspector. Each fixture connected with the drainage system shall be separately and effectively trapped. In no case shall the waste from a bath-tub or other fixture be connected with a water-closet-trap or revent connection of the same. All bath-tubs shall have drum-traps unless provided with brass or metal traps above the floor. Traps shall not be placed more than 2 ft. from the inlet of the fixture. They shall have some means of cleanout exposed to view and easily accessible and shall have a perfectly smooth interior. The use of anti-syphon traps is discouraged and such only shall be permitted as are approved by the plumbing inspector and where the stack and vented trap cannot be used.

Section 17. The vertical soil-pipe shall have separate Y or sanitary T waste connection for each fixture. Double Y's or separate fittings may be used. A special permit for joining the wastes from the fixtures must be obtained if necessary, under unusual circumstances. The main pipes shall be run with as few offsets as possible. Offsets on horizontal pipes shall be made with ⅛ and ⅙ bend. No horizontal pipes shall be permitted to exceed 6 ft. The joints shall be filled by tamping soft pig molten lead over a small gasket of picked oakum. If the Durham system of house-drainage shall be used, it shall comply with a special permit from the plumbing inspector, and shall in all respects be subject to his approval. No privy-vaults or cesspools shall be connected with the street sewer. No house-drainage shall discharge into a privy-vault. If drainage pipes are put in for future use, they shall have all openings closed by soldering or calking up perfectly water-tight and tested by the water-test.

Section 18. A water-tight catch-basin of approved pattern shall be used in connection with slop-sinks, kitchen or pantry-sinks and wash-trays in all saloons, hotels, laundries, eating-houses and boarding-houses and all establishments discharging oily matters into the sewers. Grease-traps may be put into residences and other places upon approval by the plumbing inspector.

Section 19. The main ventilating pipe shall be standard galvanized pipe. Revent pipes shall not be less than inside bore of trap for branches, or 2 in. for the vertical pipe. If more than five fixtures are revented from outside pipe, the main revent shall be increased as required by the plumbing inspector. The revent pipe shall extend up through the roof and increase 2 in. under the roof or connect to increaser of soil or waste pipe. Fifty ft. shall be the limit of run for 2 in. vent-pipes, 30 ft. the limit of run for 1½-in. vent-pipe and 15 ft., the limit of run for 1¼-in. vent-pipe. If less than five fixtures discharge into the vertical pipe, the revent may be branched into the vertical pipe 2 ft. or more above the waste of the highest fixture. No revent pipe shall be allowed to run so as to form a trap. Each revent pipe shall have a trap screw wiped into it not more than 6 in. above its connection with the trap, unless the revent is connected to trap with a brass union or brass trapscrew in trap. No brick, sheet-metal, earthenware or chimney flue shall be used for a sewer-ventilator or to ventilate any trap, soil or waste-pipe. Revent pipes shall be of cast-iron, galvanized iron or lead. If of cast-iron they shall conform in quality to the requirements for soil and waste-pipes. If of galvanized iron, they shall be of standard and tested to 500 lb. per sq. in., hydraulic-pressure. They shall be connected with screw-joints and red lead and proper iron fittings similarly coated. If lead is used for vent-pipes or for branch waste-pipes, it shall have a weight of not less than the following:

1¼-in. pipe, 2½ lb. per ft.; 1½-in. pipe, 3½ lb. per ft.; 2-in. pipe, 5 lb. per ft.; 3-in. pipe, 6 lb. per ft.; 4-in. pipe, 8 lb. per ft.

Section 20. Sediment-pipes from kitchen boilers, steam-exhaust from blow off pipes and waste-pipes of all descriptions shall discharge into an open and water supplied sink or condenser and not directly into the sewer. All drip-pipes shall be as short as possible and shall admit of frequent flushing. Waste-pipes from refrigerators or receptacles in which provisions are stored or chilled shall waste into open trays in plain sight below such refrigerator or receptacle, and not discharge upon the ground. The waste-pipes from these trays must discharge into the sewer properly trapped and vented. The waste of blow-off pipes from all steam-boilers shall be connected to a separate catch-basin before entering the sewer, the catch-basin to be supplied with city or cold water, if required by the plumbing inspector, in order to cool the steam and water from the boiler before the same enters the sewer.

Section 21. The subsoil drainage-pipe from the cellar or elsewhere shall, if connected with the sewer, discharge into a water-tight basin. There shall be a running trap not more than 2 ft. from the basin and a brass trap screw and check valve, to be approved by the plumbing inspector to prevent back-pressure. This basin shall receive no other waste.

Section 22. Floor-washes may be connected with the sewer when the inlet is protected by a 4-in. brass strainer with openings not more than ⅜-in. in diameter and a running trap and check valve not more than 2 ft. from the inlet. If considered necessary by the plumbing inspector, a catch-basin shall be placed between the inlet of the floor-wash and the main-sewer. Area-drains, when connected with the sewer, shall have a metallic strainer and a 4-in. trap with hand-hole protected against frost, preferably located in the cellar.

Section 23. No fixtures shall be permitted to be boxed in or inclosed with sheeting or doors. All shall be open plumbing. When fixtures are removed for repair or other purposes, they shall not again be boxed in. All fixtures, except water-closets, shall waste through strong, approved fixed metallic strainers. All fixtures shall be non-porous and non-absorbent. The overflow from fixtures shall connect with waste on house-side of trap. Rubber pipe connections shall not be used on any pipe or fixture connected to drain or sewer.

Section 24. Water-closets shall be placed in rooms opening to the outside air in all buildings. If opening into an air shaft the same shall not be less than 9 sq. ft. in area. Each water-closet within the house shall be supplied from a special tank of 5-gal. capacity or more, and used for no other purpose. The flush-pipe shall not be less than 1¼-in. inside diameter. The trap shall be in the bowl and above the floor with a large body of water exposed to view and sufficient immediately to cover and thus temporarily disinfect and deodorize the excreta. The water-closet bowl shall be bolted to a cast-brass floor plate ¼-in. thick, soldered to lead connection and fitted with a pure rubber gasket. No closets requiring mechanical devices, such as the "Plumber" closet, shall be allowed. When such closets are removed for repairs, they shall not again be used in any work under this chapter. The supply-pipes of closets shall preferably be equipped with separate shut-off cocks above the floors to facilitate repairs. Urinals shall be flushed from tanks. All material about the urinal shall be non-absorbent and non-corrosive.

Section 25. When water-closets are placed outside of buildings, they shall be separately trapped and flushed automatically with seat-action. All shall be protected from frost and the part under ground placed in a compartment to permit access to the valves in case of repairs. The enclosure of water-closets shall be ventilated with slatted openings in doors and roof. The waste water from hopper cocks shall be trapped and properly connected on inlet-side of main-trap. In tenement-houses, one water-closet must be provided for each two families.

Section 26. When the drainage system is completed, the entire plumbing and drainage system within the building must be tested by the plumber, in the presence of the plumbing inspector, under a water or air-test as directed. All pipes must remain uncovered in every part until they have successfully passed the test. The plumber must securely close all openings as directed by the plumbing inspector. The use of wooden plugs for this purpose is prohibited. The inspection of work shall in no case be delayed more than 24 hours after application for inspection is made. No notice to inspect shall be given until all is complete. The first or water-test will include all bends, traps, soil, vent and waste-pipes and all work excepting that which shows above the floor when the work is completed. An alternate test with air-pressure may be employed by the plumber at his option, at not less than 4-lb. atmospheric pressure with force-pump, and mercury column of not less than 10 in. The use of spring-gages

is prohibited. When the fixtures are connected and all complete, the peppermint-test shall be made by the plumber, under direction and in the presence of the plumbing inspector, using 4 oz. of the oil of peppermint for each line of pipe. For any additional tests or inspection required aside from the one water-test, one peppermint-test and one outside sewer connection inspection, the plumber shall pay to the plumbing inspector the sum of 50 cents for each additional test or inspection.

Section 27. It shall be the duty of every architect and builder to submit plans for the plumbing of any building to be erected in this city to the plumbing inspector for his approval before constructing the same. The fee for such inspection shall be $1, to be paid by the party presenting such plans for approval. The plumbing inspector will inspect any building in this city if called upon so to do by any tenant or adjoining owner in writing. If the drainage of any such building is found to be in a sanitary condition, no fee shall be charged; if unsanitary, the same shall be remodeled in accordance with the requirements of this chapter and the owner shall pay to the plumbing inspector a fee of $1 for such inspection. If new drainage is required, it shall be constructed according to the requirements of this chapter and a permit obtained therefor as in this chapter provided. Any owner of any building found by such inspection to be in a condition contrary to the requirements of this chapter shall be notified in writing by the plumbing inspector to cause such building to be changed so as to conform with such requirements within 20 days after the service of such notice. If such owner shall fail to make such building comply with such requirements within the said 20 days, he shall, upon conviction, be fined in any sum not less than $5 and not more than $200 and shall be subject to a further penalty of $5 for each day's failure so to comply after the first conviction.

Section 28. No excavation shall be made for the purpose of making sewer-connections without first having obtained a permit from the plumbing inspector to make such connection, and the same shall be done under the direction and supervision of the plumbing inspector.

Section 29. Any person violating any of the provisions of this chapter shall, upon conviction, unless otherwise provided herein, be fined in any sum not less than $5 and not more than $200 for each offense. Any certificate may be revoked by the mayor for cause.

Attest, O. E. Engstrand, City Clerk.
J. J. Lord, Mayor.
Passed September 22, 1911.
Approved September 22, 1911.
Published September 27, 1911.

HERE AND THERE IN NEW ENGLAND.

Rhode Island.

Providence.—Inspector of Plumbing Reuben S. Bemis has just returned from New York City, where he has been making an inspection of the public baths. He is much impressed with what he saw and believes the public baths to be a big factor in conserving public health and personal cleanliness.

Providence.—Albert Hainsworth, a plumber, and his wife, are on an automobile trip across the continent in search of rest and health. When they left Providence a few days ago it was with Los Angeles as their objective point. They have a touring car fitted up with a bed and a complete camping outfit. It is their plan to follow the main highways and to jog along at a comfortable rate with no idea of making any new records.

Providence.—An appropriation of $100,000 is now available for the erection of public-comfort stations in the city of Providence.

New Hampshire.

Tilton.—The firm of Smith & Smith, which has conducted a stove, plumbing and tinware business here for 25 years, has closed out its business. C. H. Smith, one of the members of the firm, has gone to California.

Connecticut.

Waterbury.—The Barlow Bros. Co. has the contract for the plumbing and heating in R. L. Coe's house at 27 Holmes Ave., which is being enlarged and remodeled.

Bridgeport.—The firm of Stanton & Swords, plumbers, whose place of business is at 1179 Pembroke St., has been dissolved. The business will be continued for Samuel T. Stanton at the old location.

A FOOL THERE WAS.

A. M. Goddard, 2413 Pacific Ave., Tacoma, Wash., is a constant reader of "Domestic Engineering" and an appreciator of "Domestic Engineering's" editorials and cartoons. He originated the accompanying sketch about the same time we published a similar cartoon on the "Price-Cutter," which shows that "great minds run in parallel canals." This little sketch he is using on his business-

The Cut-Price Jerry-Go-Round.

card. He is also always on the lookout for something that will interest the boys. The other day he wrote to us, saying: "I also enclose a piece of poetry entitled 'A Fool There Was.' While it refers to the printing trade, it is so thoroughly appropriate to our business that I would ask you to reprint it in your journal for the benefit of our fraternity." Now you can read what Friend Goddard thinks good. We think it is, too:

A fool there was and he had a place,
Where he worked each day at the printer's case.
His fingers nimble, his movements quick,
And the type flew quickly into his stick;
His work well done, his case kept sleek;
He drew a steady eighteen a week.

One day in the office he saw the boss
Making an estimate; figuring cost;
One-dollar an hour for the compo's time
Went down on the sheet; said he, "that's fine,
Eighteen a week is all I get;
There's money made on that work, I'll bet."

So he said to himself, "I'll open a shop,
To reap of the profits a larger crop.
I'll count composition at half that cost;
And land many orders the boss has lost."
So he went to the bank and drew out his hoard
And bought the best outfit he could afford.

He worked with energy, day and night
At prices the poor fool thought were right;
Forgetting that types wear out some day,
And for their replacement there's money to pay;
That rent and fuel and light and power,
All added their share to the cost per hour.

That his plant grew less in value each day,
And fire insurance was also to pay;
That the money invested should interest bring,
As it would if invested in some other thing.
That his pay-roll counted nine hours a day,
But only for six his customers pay,
That the salary he drew was but pay for his work
Which he surely earned now, for as boss he don't shirk.

A fool there was, and many perhaps,
Of these deluded and misguided chaps,
Not only "was" but are today,
Still grinding on in the same old way.
With their nose to the stone, at a rapid pace
Losing the cash they saved at the case.
But an end must come, and who can tell
How soon the poor fool will wind up in—well——

A fool there was and fools there be;
Perhaps among them there's you and me.

LEGAL DECISIONS

SUB-CONTRACTORS USING WRONG MANUFACTURER'S FIXTURES.

A company that had taken a contract for a government building sub-let to a firm the furnishing of the material for, and the doing of, the plumbing work. The original contract provided that the contractor should furnish for approval of the supervising architect the name and address of the manufacturer and catalog numbers of the following named fixtures he proposed to use: Water-closets, urinals, slop-sink, wall-hydrants, fire-hose rack, gate-valves, pressure-reducing valve, basin-faucets, shower-baths and water-heater. Neither in the contract nor in the plans and specifications was it stipulated or provided that the material or fixtures to be furnished and used should be made by any particular manufacturer. After the making of the contract and before the sub-letting mentioned, the contractor submitted to the supervising architect a list and catalog numbers of the articles referred to, and gave the name of a certain manufacturer as the name of the manufacturer, which were then approved by the supervising architect. The sub-contract required the firm taking it to execute same to the full and complete satisfaction of the supervising architect and the superintendent of construction, but there was nothing contained in it requiring the furnishing or use of fixtures or material manufactured by any particular manufacturer. After the sub-contractors had partly performed their contract by the furnishing and using of goods and material supplied by and purchased from another manufacturer, the supervising architect condemned and rejected them because they were purchased from such manufacturer, and not from the approved one.

The Supreme Court of Utah holds, in a suit by the sub-contractors against the contractor, Midgley vs. Campbell Building Co., 112 Pacific Reporter, 820, that the jury was correctly charged that the contract between the sub-contractors and the contractor did not require the former to furnish material or fixtures manufactured or supplied by or purchased from the manufacturer first mentioned. If the contractor desired to have such a requirement imposed on the sub-contractors, not appearing on the face of the plans and specificatons submitted to them and made a part of their contract, but which was brought into existence only because of something done by the contractor in pursuance of the specifications, furnishing to the supervising architect the name of the manufacturer stated, such fact ought to have been embodied in the written contract entered into between the contractor and sub-contractors.

Conceding that under the clause referred to in the contract the contractor was not obligated to pay for the execution of the work if it was not to the satisfaction of the supervising architect and the superintendent of construction, though the fixtures and material furnished and the work done were in strict accordance with the plans, details, and specifications, and that the supervising architect had the right to arbitrarily reject or condemn the fixtures furnished, still, if they were rejected or condemned in such case and in such manner and upon such ground, that by no means gave the contractor the right to claim damages against the sub-contractors for breach of the contract on their part.

Furthermore, it does not appear to the court that there is anything particularly sentimental or fanciful, or tasteful, about water-closets, urinals, slop-sinks, or basin faucets, especially in a public building. It is chiefly requisite that they be sanitary, useful, suitable, and neat. The chief or controlling factor in the contract is not that the goods should satisfy the fancy, taste, or aesthetic sense of the supervising architect, or his mere whim or caprice in respect to their fitness or utility. The important thing in that regard is that the work was required to be done and the goods and fixtures furnished to be "in each case in strict accordance with the plans and specifications and of the best quality and grade found in the market," and the fixtures and goods to be of the kind, character, grade, quality and description enumerated and described in the plans and specifications. The supervising architect was not dissatisfied because the goods and fixtures furnished by the sub-contractors were not in strict accordance with such plans and specifications, or were not of the best quality and grade found in the market, or were not of the same kind, grade, character and quality as theretofore submitted to him by the contractor and approved by him. He was dissatisfied on the sole ground that the fixtures were purchased from one manufacturer, and not from another, and for that reason arbitrarily condemned and rejected them. If in such case the sub-contractors, who had not agreed to furnish goods manufactured or supplied by the particular manufacturer, were liable to the contractor for breach of contract on the sole ground that the supervising architect was "not satisfied," and for that reason arbitrarily rejected the goods, then would they also be so liable had they furnished goods manufactured or supplied by the desired manufacturer, and had they been arbitrarily rejected by the architect solely because of his dissatisfaction in that they were not purchased from or supplied by the manufacturer from which they were in this case obtained.

GOVERNMENT CONTRACTS TO BE AWARDED.

Supervising Architect James Knox Taylor, Treasury Department, Washington, D. C., will receive sealed proposals as follows:

Until 3 p. m. on Nov. 7, 1911, for the construction complete, including plumbing, gas-piping, heating apparatus, electric conduits and wiring, and interior lighting fixtures, of the U. S. post-office at Jonesboro, Ark. The building is to have a ground area of approximately 4,300 sq. ft., three stories and basement, faced with stone to the first floor, brick and stucco above, roof-covering of tin; the first floor only is to be of fireproof construction.

Until 3 o'clock on Nov. 10, 1911, for the construction complete, including plumbing, gas-piping, heating apparatus, electric conduits and wiring, and lighting fixtures, of the U. S. post-office at Newberry, S. C.

All proposals should be in accordance with drawings and specifications, copies of which may be obtained from the custodians of the above sites or from the office of the Supervising Architect at Washington, D. C.

What Were in the Bath-Tub?

Miss D., a teacher of unquestioned propriety in all its branches, was in the throes of commencement, and to the best of her ability was entertaining some young men—the suitors of her fair pupils. They conversed on some beautiful flowers in the drawing-room.

"Yes," exclaimed the old lady; "but if you think these are pretty, you just ought to go upstairs and look in the bath-tubs of the girls' dormitories. They are just full of American beauties!"

BUSINESS MANAGEMENT

NEW METHODS FOR OLD

COMES BACK AT "THE SQUIRE."

Editor "Domestic Engineering":—In your issue of September 30, "The Squire" says that he approves of the 10 per cent plan; in starting off his letter he says he is positive, although at the ending he puts in a few ifs. He also says that "The Office Boy" is profuse in his reasons as to why the 10 per cent plan is not being successfully applied in the city of Minneapolis. Now it does not make any difference whether my reasons were lavish or not, the fact still remains, as I stated in my former letter, that conditions in Minneapolis are rotten, and you, Mr. "Squire," will have to admit that this is so. I take it for granted that you are somewhat posted on affairs, of course, if you are not, why that's a different matter.

Now let's get down to business, Mr. "Squire." I am not like Jim Jeffries, who couldn't come back, I am back. Mr. "Squire," don't give us so much oratory in your letter. Say, fellows, you know how those orators talk; they talk about a lot of this and that, talk around the subject, but never get down to the actual question before them. Of course, Mr. "Squire" is entitled to his opinion in this matter as in any other matter, but, Mr. "Squire," let us take the following questions, and remember, no "ifs" or "ands" go; nothing but plain yes or no:

Are goods bought in car-load lots always included in the 10 per cent system?

Don't some of the 10 per cent jobbers take notes not only on the 2 per cent or old accounts, but on current 10 per cent accounts and allow full discount? Has the 10 per cent system put the unbusiness-like fellow where he belongs; has it done this any more than before this 10 per cent system went into effect?

Are there not as many unbusiness-like fellows in this business now as ever? Isn't the little fellow without capital doing just as much as ever?

Are not some of the fellows who are starting with very little capital doing just as big a business as the big fellows with the dough?

Don't some of the 10 per cent jobbers take owners' garantees in cases where the plumber is no good?

Don't some of the 10 per cent jobbers sell to customers and to journeymen plumbers?

Now, Mr. "Squire," if you are honest with yourself (and I bet you are), you will have to answer these questions about the same as I have answered them in my letter of September 16th.

"The Squire" also says that it is impossible to lay down a set of rules and follow them without deviation, and treating this as a proven fact we have the jobbers' reason for straying from the straight and narrow path when the occasion demands. Here "The Squire" admits what I said in my former letter; the jobbers do not live up to the rules at all times. The rules can be followed, and in order to make this 10 per cent system, or any other system, a success the rules must be followed. "The Squire" also says that there are only two concerns in Minneapolis who still sell on the old 2 per cent plan, and he adds they rank or rather have a hard time holding fourth and fifth place. I suppose "The Squire" means in the amount of business these concerns do. I think "The Squire" is wrong again, for I should place these concerns one in either first or second place and the other about third or fourth. Remember this is only on business done in the city of Minneapolis, and taking this out of eight concerns, I should say that it shows remarkably well for the old 2 per cent system. Another thing, these two concerns do not sell to every Tom, Dick or Harry, nor do they sell to consumers or journeyman plumbers nor rely on owners' garantees; their credit is A No. One, and they are here to stay.

In conclusion, if this matter was put to a vote of the master plumbers of Minneapolis, I think that you would find the vote about 70 per cent to 80 per cent in favor of the 2 per cent system as compared to the 10 per cent system the way it is run now, and in this same list of master plumbers favoring the 2 per cent system you would find some of the most reliable concerns. Now, Mr. "Squire," go to it! This no doubt will hold you for a while. I believe in stating things as they are; that is the way I find them, and in my last letter I was sincere and meant just exactly what I said. Go to it, Mr. "Squire," and if this doesn't quite put you on the right track, I will try and help you along a little later.

Minneapolis. "The Office Boy."

CAN THE PLUMBER AFFORD TO GIVE COMMISSIONS?

Editor "Domestic Engineering":—The other day I was talking with a friend who is in the plumbing business in another state and he made the remark that business was slow just now. Also, that he did not believe in doing any more than his contract called for, and such a thing as one in the plumbing business being able to give any commission on jobs seemed to him to be rank heresy. All these remarks grew out of the conversation that we were having.

Now the facts of the case are: For the fast few years I have found by actual experience that it is a paying investment to give to certain parties (former customers, and still such as occasion requires) a certain percentage on the new jobs that they get for me. One of these friends has, in the past six years, been instrumental in throwing no less than 15 jobs directly into my hands. These jobs varied in price from $130 up to $700. Now did it pay me to give to this man a small percentage? Why not? Was there anything unbusiness-like about it? One might say, "Why, get out and hustle the jobs for yourself." This is done, and this commission business was just so much extra, unlooked for. "Your friends will work for you," I think I hear one say? Well, they may; but they will work harder and oftener and with more vim if they are sure that there is a piece of money in it for them, let me tell you. I am not alluding to any public nor government work in these remarks. It was all housework and I consider it as on a strict commission basis. I make these latter remarks because some one is sure to say, "Oh, so you slipped 'em a piece of money, eh? Most anybody could pass out a bribe." Almost all large firms

are glad to give a certain commission for business brought to them and I see no reason why plumbers should be an exception to the rule. If business can be got by such methods why not? Let us hear what some other readers have to say in the matter.

J. Crabtree.

THE OMISSION OF PARTICULARS.

Editor "Domestic Engineering:"—The omission of particulars is not a new problem for the consideration of the 20th century party by a whole jugful. Remember the lines running something like this? "For the want of a nail, the shoe was lost; for the want of a shoe, the rider was lost," and so on until they ran up the ascending scale of doubtful political dignitaries, finally arriving at the conclusion, and the truth, which was, that for the lack of one small nail, applied to the right location and at the proper time, the whole blamed kingdom went to smash, which same was made plentifully evident by our grandfathers. Now when I told that fairy tale to a little four-year old the other day, he said: "Why didn't they use the auto?" In the light of the present-day mode of living, some of these old stories, will have to be reconstructed, but the moral will read just as true. We are apt to lose sight of the many small points or details that make life worth living, or an article clear. It is a perfectly logical matter too. Ever ascend a 20 or 30-story building story by story? Well, if you looked out of the window at the second or third story, you saw a whole lot of things on the sidewalk, men, women, horses, perhaps some boys playing marbles at the corner. You could see the marbles from the second story. As you climbed and climbed, the objects on the street grew smaller and smaller, and long before the 20th story was reached the marbles had disappeared entirely from sight. They were there all the same, but you could not see them. Other points now occupied your attention. The city lay spread out beneath, like a map. For blocks and blocks you could trace the tide of travel as it flowed along the streets. The harbor, the ships just coming over the horizon, the cities out on the plain, you see the smoke ascending from a thousand factories; the boys have not yet finished their game of marbles on the side walk some 20 stories below.

Do you get it? See any reason now just why one sometimes forgets the details in the game? Technical men are accused many times of omitting the easy points. A practical man is just as apt to do the very same thing after he has been at the trade for some time. When he puts in his first little job of plumbing or heating he can see every joint and bolt on the job. He can (and will) minutely and accurately describe the same and just how he put them there and why. Now that is mighty valuable and right and interesting. Take the very same man 10 or 20 years later and have him describe the same job and he'd do it in about 50 or 100 words. He's been doing some sky-scraper jobs in all these 20 years and entirely lost sight of the smaller matters. The marbles are still on the sidewalk (this was Saturday and the game a long one) and there are people who like to see the game.

Why these reflections? Well, it's like this: The other day I was talking with a certain party and he started out to give a complete description of how to do a certain job. He said: "You hook on to the boiler." "Hold on," said I. "How come the boiler there?" "Why, you darn fool, the boys set it up." "I didn't see them and I don't know how they did it, for I never saw one put up," I answered.

He tumbled right away. Saw the point "instanter." Say, friend, how many things are there that go to make up the setting of a boiler, even though the boiler be a small one? If a person just stops to put down the points, he can write about 10 chapters on the subject and then not go into the ratings of the boilers at that. It is good to get "called" once in a while, for then you will become aware of the many things that you have left out. Do not assume that the average reader knows thus and so. Assume, rather, that he is ignorant and then proceed to tell him all about it just as if he were a green helper serving his first few weeks under you. Unless each step in the job is, at first, made clear, the mind will not grasp the whole completely and there is apt to be some blunder, something left out or undone and then the trouble begins. That is one reason why we have so much trouble in the work. Many minor details are left out, because they were not understood, having never been explained. The marbles are gone too? A fellow came along and played "fen grinds" on the gang, so I am going to quit right here.

Chicago. D. C.

SEVEN MAXIMS FOR PLUMBING AND HEATING CONTRACTORS.

In these days we do not pay nearly so much attention to "mottoes" as did our forefathers. Whether or no we lose anything by the change is a matter for debate, says an English exchange. But I came across the following seven maxims for plumbing and heating contractors the other day and they struck me as well worth remembering:

1. This place of business is going to make a fair living profit on all work and goods, or it is going to shut down quick.
2. The owner is going to know just what those profits are and no guess-work goes.
3. Only the best of help along all lines will be employed. Dishonest people, time-killers and booze-fighters need not apply.
4. When a contract is completed, it shall be settled for in full. No percentage shall be held back "to see if the job works well."
5. The business comes from our customers. Consequently no effort must be spared (within the bounds of reason) to satisfy them and make each customer a walking advertisement.
6. First-class work, only, will be permitted. Therefore consistency requires that first-class goods, only, shall be used and the best of tools employed to bring about the desired end.
7. The stationery shall be attractive and up to-date, the show-room ditto, and a certain percentage on the entire business shall be set aside for advertising purposes.

A Nervous Thirst.

A passenger on a train between Chicago and Detroit left his seat in one car and went into the car just behind the one in which he had been riding. Having opened the door very suddenly he said: "A lady has just fainted in the next car. Has anybody here got a little whiskey?" A gentleman got out a bottle from his satchel and handed it to him. He pulled out the cork and took a long draught, whereupon he handed the bottle back, saying: "Thank you very much. It always makes me nervous to see a lady faint."

THE METAL MARKET

AN INCREASE IN PIG-IRON PRODUCTION.

It was somewhat of a surprise that the pig-iron production during September amounted to 1,977,000 tons. This is the largest in any month since April and, with the exception of that month and the one preceding it, the largest since October, 1910. It falls only 79,000 tons short of the production of the corresponding month last year. Southern iron for delivery in 1912 has been made on a basis of $10 for No. 2, and for prompt shipment this figure has been slightly shaded. The Buffalo furnaces have transacted some business for next year, but consumers are not especially anxious to contract ahead. In the East there appears to be a better feeling, but in the West conditions are not as promising. Southern trade, however, is expected to be active. Quotations are as follows:

No. 2 Southern foundry, Birmingham	$.....	$10.00
No. 1 Northern foundry, New York	15.50 to	15.75
No. 2 Northern foundry, New York	15.00 to	15.25
No. 2 Plain Northern foundry, New York	14.75 to	15.00
No. 2 Northern foundry, Chicago	14.50 to	15.00

OLD IRON.

The market is very quiet. Some of the railroads have put out heavy lists, notably the Baltimore & Ohio for 21,000 tons. Quotations are as follows:

No. 1 yard wrought, long	$10.50 to	$11.00
No. 1 yard wrought, short	9.50 to	10.00
Heavy-melting steel scrap	9.50 to	10.00
Machinery cast	10.00 to	10.50
Wrought pipes and tubes	9.00 to	9.50
Malleable castings	10.00 to	10.50
Wrought turnings	5.50 to	6.00
Cast borings	5.00 to	5.50
Stove plate	8.00 to	8.50
Light iron	4.00 to	4.50

LEAD.

The American Smelting & Refining Co. cut the price of shipment-lead in New York to 4.35 cents. This was a sudden move and took the independent sellers by surprise. These outside interests are selling at 4.25 cents St. Louis.

SPELTER.

The market continues dull and unchanged. The supply is not large and consumers are not buying ahead. Sales have been made at 6 cents New York and 5.85 cents St. Louis.

COPPER.

Considerable business has been transacted for nearby delivery. Some of the largest consumers are short of supplies and have had to come into the market for October copper. Then too, many of them have not contracted for their November supplies. This is unusual in the copper trade, but it is a condition of strength and not weakness, for, should the demand increase, consumers will hasten to cover their requirements for future deliveries. Manufacturers of sheet copper and copper plates report active business with mills running full. A peculiarity of the business, however, is that it has been of a hand-to-mouth character, as from the schedule sheet it would sometimes appear that the mill would have to close down in a fortnight, but before that time was reached new specifications would arrive which kept the mill going for about a like period. Quotations are without change, electrolytic selling at 12.25 and Lake at 12.50 cents for large lots.

PIG TIN.

The statistics for tin as compiled by the secretary of the New York Metal Exchange during the month of September were favorable to the holders of the metal in that they showed large deliveries amounting to 4,200 tons. The arrivals were large, being fully 1,000 tons in excess of the deliveries, but stocks were at a very low point at the end of August. On the strength of these favorable statistics, the London speculative clique boosted prices and tin is now 1½ cents higher than last week. The demand is good and consumers have no alternative but to pay the quotation which they consider too high for tin at this time of the year, selling at 40 to 41 cents.

NEWS FROM OHIO.

New London.—The New London Water Co. has been incorporated with a capital stock of $35,000 to erect and operate a waterworks system for this village. The incorporators are: G. M. Cummings, W. L. David, John H. Garfield, J. F. Cole and Frank H. Ginn.

Akron.—The city council has at last decided upon the location of the public-comfort station to be erected here. It will be at the corner of Main and Market streets, the site first selected. The director of public service has been authorized to enter into a contract for the erection of the station at a price not to exceed $7,900.

Zanesville.—Zang & Bence were awarded the contract for the plumbing in the new addition to the Zanesville hospital at their bid of $3,006.

Coshocton.—An ordinance has been adopted by the city council to sell bonds in the sum of $20,000 for the purpose of enlarging the waterworks system. One of the improvements will be the installation of a steam-driven pump.

Canton.—The county commissioners of Stark county have entered into a contract with the Canton Electric Co. to heat the court-house with central-station heat during the coming year at a flat rate of $200 per month.

Lorain.—Bids will be received in the near future for the construction of a filter basin and coagulating plant to cost in the neighborhood of $25,000.

Columbus.—Health Officer Clemmer has declared war on gas, oil and coal stoves where proper ventilation is not provided. He declares more sickness is caused during the winter months by people breathing poisonous gases coming from stoves than from any other cause. Dr. Clemmer says: "Unventilated devices, from salamanders to hot-plates, are in use for heating purposes. Some factories are heated by means of large iron cylinders set on end above the floor, filled with coal and coke and burned. This is called a salamander. Substitute for furnace heat is found in a gas-burner placed under a register. Gas and oil stoves are in common use."

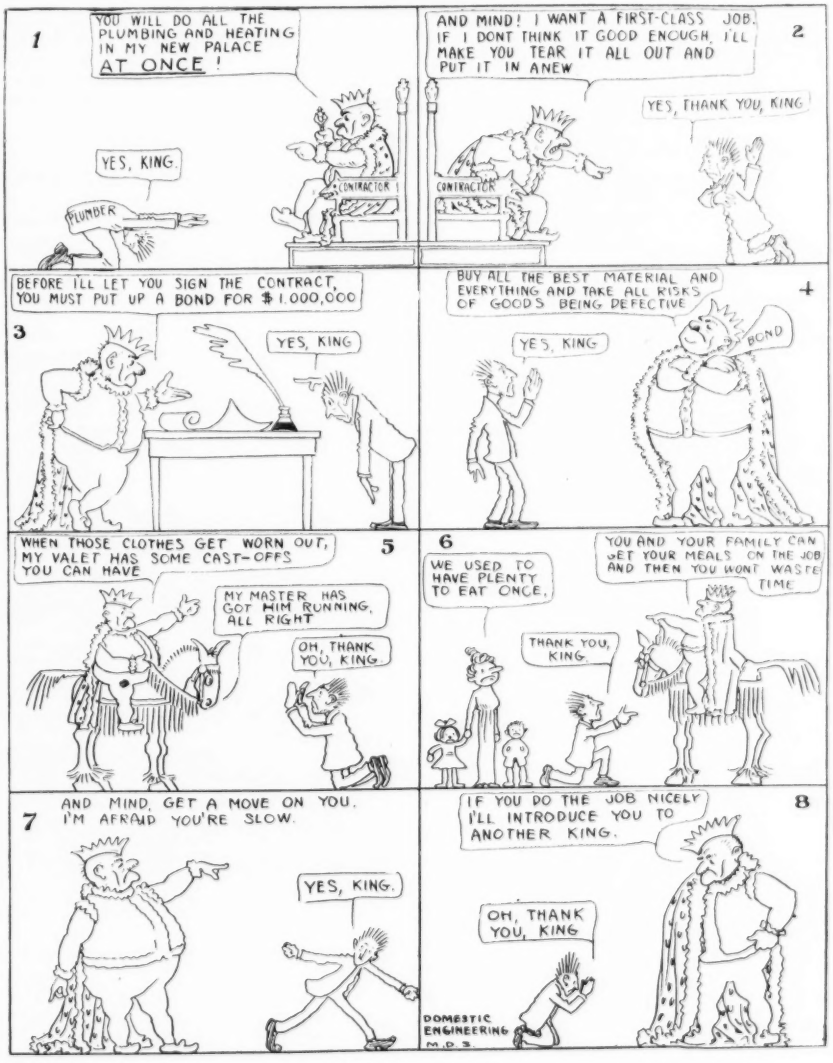
FALL MEETING OF THE EXECUTIVE COMMITTEE OF THE NEW YORK STATE ASSOCIATION OF MASTER PLUMBERS.

There will be a meeting of the Executive Committee of the New York Association of Master Plumbers on Wednesday, October 18, 1911, at the Rockwell House, Glens Falls, N. Y., for the consideration of matters which have engaged the attention of the association since the last convention held at Rochester, N. Y., also to conclude arrangements for the next state convention and designate the place for holding same. The first session will be called to order at 10 o'clock a. m., and will be presided over by John H. Moran, of Albany, N. Y., state president. The committee consists of all the officers of the association.

Domestic Engineering "First-Aid-to-the-Injured"

Postal Card Cartoon—No. VIII.

The Sub-Contracting Evil


1
YOU WILL DO ALL THE PLUMBING AND HEATING IN MY NEW PALACE AT ONCE!
YES, KING.
PLUNDER
CONTRACTOR
2
AND MIND! I WANT A FIRST-CLASS JOB. IF I DONT THINK IT GOOD ENOUGH, I'LL MAKE YOU TEAR IT ALL OUT AND PUT IT IN ANEW
YES, THANK YOU, KING
CONTRACTOR
3
BEFORE I'LL LET YOU SIGN THE CONTRACT, YOU MUST PUT UP A BOND FOR $1.000,000
YES, KING
4
BUY ALL THE BEST MATERIAL AND EVERYTHING AND TAKE ALL RISKS OF GOODS BEING DEFECTIVE
YES, KING
BOND
5
WHEN THOSE CLOTHES GET WORN OUT, MY VALET HAS SOME CAST-OFFS YOU CAN HAVE
MY MASTER HAS GOT HIM RUNNING, ALL RIGHT
OH, THANK YOU, KING
6
WE USED TO HAVE PLENTY TO EAT ONCE.
YOU AND YOUR FAMILY CAN GET YOUR MEALS ON THE JOB AND THEN YOU WONT WASTE TIME
THANK YOU, KING
7
AND MIND, GET A MOVE ON YOU. I'M AFRAID YOU'RE SLOW.
YES, KING.
8
IF YOU DO THE JOB NICELY I'LL INTRODUCE YOU TO ANOTHER KING.
OH, THANK YOU, KING
DOMESTIC ENGINEERING M.D.3.

Oh, Thank You, King!

Hobnobbing with King Contractor may satisfy vanity, but it is a poor purse-filler. It resembles greatly the case of the cat pulling the chestnuts out of the fire for the monkey. If you are trying to fight the contracting evil in your territory, write for a batch of these cards, 25 or more, and send them where they will do good. We will mail them to you free of cost.

AMONG THE WHOLESALERS

PERSONAL MENTION.

Francis J. Baker, president of the George H. Tay Co., San Francisco, Cal., left this week for his home city, after a brief visit in eastern cities.

J. B. Rahm, president and general manager of the United States Supply Co., Omaha, Neb., was in Chicago this week calling on some of his many friends in the trades.

OPEN CHICAGO OFFICE AND SHOW-ROOM.

The Continental Radiator & Foundry Co., of St. Louis, Mo., has just opened a branch office and show-room at 189 N. Dearborn St., Chicago, in charge of A. A. Brees.

OCCIDENTAL CO. IN NEW QUARTERS.

The Occidental Co., Cleveland, O., has moved its offices and show-room from 815 to 405 Hippodrome Bldg., in that city. Its new quarters are more commodious and better adapted for its plumbing-specialty business.

RUUD MFG. CO'S. CLEVELAND OFFICE MOVED.

The Ruud Mfg. Co., Pittsburgh, Pa., has moved its office in Cleveland, O., from 1155 Prospect Ave. to the new Nineteen Hundred Euclid Building, located at 19th street and Euclid avenue. The office is in charge of E. F. Buescher.

THE BI-LO FLUSH VALVE CO. ORGANIZED.

The Bi-Lo Flush Valve Co., Fremont, O., has been organized by C. C. Biddle and others for the purpose of manufacturing the Bi-Lo flush-valve and putting it on the market. Judging from inquiries already received the new company expects to do a most sucessful business.

MOVING ITS CLEVELAND BRANCH.

The Pierce, Butler & Pierce Mfg. Co., Syracuse, N. Y., is moving its branch at Cleveland, O., from 1145 Prospect Ave. to the new Nineteen Hundred Bldg., at 19th street and Euclid avenue. The branch is in charge of J. H. Bacon, jr., and business will be transacted at the new office on and after November 1st.

ADDING NEW SPECIALTIES TO ITS LINE.

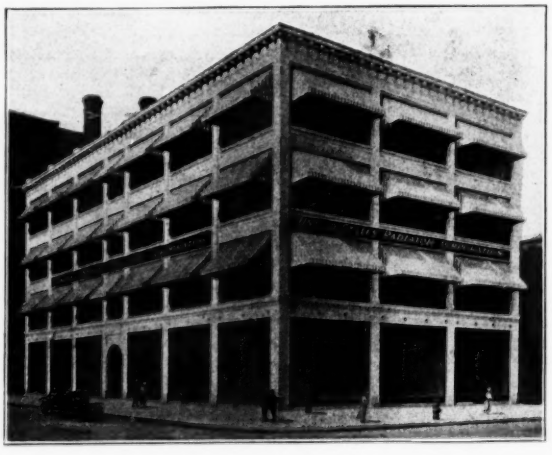
The Famous Mfg. Co., formerly of Grand Rapids, Mich., but which was recently consolidated with the American Brass Novelty Co., of Grand Haven, Mich., is adding a line of bath-tub and lavatory trimmings to its "Famous" line of plumbing specialties, including bath-cocks, and waste and overflows and other specialties.

THE KENNEDY CO'S. NEW BUILDING FINISHED.

The finishing touches were put on The Kennedy Co's. new building, at Euclid Ave. and E. 19th St., Cleveland, O., this week. The company's business has been transacted in the new building for the past few months, as William Callow, manager, couldn't wait for the last few artistic touches to be put on. Mr. Callow requires plenty of room and, judging from the 50,000 sq. ft. of floor space in the new building, he should have sufficient to hold him for a while. Of course, it must be remembered that Theo. Stuber, the fixture and specialty man, is using his full share of this space. He takes great pride in the arrangement of the show-room, and it really is worth looking at.

THE GENERAL OFFICES OF THE UNITED STATES RADIATOR CORPORATION.

The United States Radiator Corporation recently moved its general offices into the handsome new office building shown in the accompanying illustration. This building is located at the corner of Broadway and East Grand River avenue, in the center of a rapidly-growing business district in Detroit, Mich. The entire three upper floors are occupied by the general offices of the corporation. The building is modern in every way, and has a great amount of window surface which provides plenty of light and ventilation for the employees. It is also equipped with a modern system of heating and with forced ventilation for the winter months. The upper floor is devoted to the executives, being divided off into private offices. The third



General-Offices of the United States Radiator Corporation at Detroit, Mich.

floor is the general-sales floor, and the second floor the general-office floor. Large rest-rooms are set aside for the employees and among the plumbing appointments are shower-baths. It is intended at some later date to fix up the roof as a roof-garden for the use of the employees during the summer-months.

TRADE OPPORTUNITIES IN SOUTHERN EUROPE.

The value of bathrooms is receiving somewhat extended recognition in Mediterranean countries, writes United States Commercial Agent John M. Carson. These conveniences are now being installed in most of the large buildings constructed for domiciles and they are also being added to many old ones. The fixtures and their arrangement, in appearance or utility, are not equal to similar fixtures of American make. Generally speaking, the water-closet fixtures are poor and inefficient, and are installed regardless of artistic and sanitary requirements. The practical exhibition of an American bathroom and

water-closet, both separately and together, in the large cities of Southern Europe, would furnish business for the manufacturer who would install the exhibitions. Agencies should be established in this way. Correspondence and illustrated literature printed in English will be as profitless as pouring water in a sieve.

THE ILLINOIS CHAPTER HOLDS FIRST MEETING OF THE SEASON.

The Illinois Chapter of the American Society of Heating and Ventilating Engineers held its first meeting of the fall season on October 9 at Vogelsang's, Madison street, Chicago. After the usual platter-skirmish, President Patterson called the meeting to order. He opened proceedings by reading the following tribute to James Mackay, whose death took place since the last meeting.

In Memoriam.

It is my sorrowful duty to announce the death of one of our best-known members, Mr. James Mackay, who passed to his eternal rest on July 18, 1911. Mr. Mackay had endeared himself to every member of the chapter by his genial disposition and ever-courteous treatment of his colleagues.

James Mackay was a charter member of the American Society of Heating & Ventilating Engineers. He served as a member of the Council in 1897 and was a member of the Board of Governors for the years 1905-6-8-9 and 10. He was elected first vice-president in 1907 and president in 1908.

He was a charter member of the Illinois Chapter and was the first vice-president and second president of this organization. He served on many committees and was a member of two at the time of his death.

His record is one which bespeaks the universal esteem held for him by his associates. Ever active in the interest of the society, his judgment did much to direct and build up both the parent body and this chapter. At all times the highest type of manhood, both in his business and social relations, this chapter has just cause to lament his loss. Not soon will we erase him from our memories, and there will be an unfilled void at our meetings for a long period in the future.

Later in the evening resolution was made and adopted that the Board of Governors be instructed to incorporate the memorial notice in suitable form, and that it be sent to the family of the deceased.

Secretary Newport then called the roll and read the minutes of the last regular meeting in April, special mention being made of the resignation of George Mehring of the Ventilating Committee and the resignation of John F. Hale from the secretaryship.

The next order of business was the reading of the president's report.

President's Report.

The year just passed, has like many of its forerunners been replete with advances in every branch of science. Heating and ventilating have not lagged behind and, when we carefully examine what has been accomplished, there is little doubt that an improvement will be found over the year which preceded it. The various committees of this chapter have all made some contribution to the cause and one of them has probably made more original research than any committee of the parent body. All of this will bear fruit in the future, and when fully ripened will be eagerly sought for.

Among our members are many who have had more than ordinary trials to vex them during the season and, notwithstanding the unusual demands labor-difficulties made upon their time, have not hesitated to devote their energies to the duties of the chapter.

The summer meeting of the society was held in Chicago, and much of its success was due to those members of the chapter who did not hesitate to give their time freely. Personally I owe a heavy debt to the committees who had charge of this affair and some of whom acted in my stead, a debt which, if not settled in any other way, has a full return of gratitude.

During the year we have lost two members, one by death and the other by resignation, the latter our former secretary, John F. Hale.

The outlook for the coming year is bright for the society. Members of ability have been placed in nomination for the various offices, and we are certain of having such officials as will advance the interests of the society. Several of our members have traveled in foreign lands,

S. R. Lewis, President.

J. M. Stannard, Vice-Pres.

W. L. Bronaugh, Secretary.

August Kehm, Treasurer.

and no doubt have brought to us material which will be of value to the chapter when it is made known. I believe every member will submit something of interest to us during the year.

There are numerous points pertaining to ventilation which are now being investigated, one of them that of the possibility of using much less fresh air than at present, provided it is sufficiently agitated while being used.

As pointing to possibilities in the future, I found in the mountains of Colorado this fall a hotel-announcement which read as follows: "There are no fires in this building. The heating, lighting, cooking and hot water are furnished by water power."

The secretary then gave a resume of the things accomplished during the meetings of the previous year, receiving the compliments of the chapter for his conciseness of presentation.

The report of the treasurer was then submitted, showing that the chapter's financial pulse is beating with customary vigor.

Edward F. Capron, Chairman of the Board of Governors, reported regular meetings of the board, much business accomplished, and he urged members of the chapter to further enthusiastic co-operation with their executive body.

President Patterson then appointed as tellers for the elective ballot Ralph B. Hayward, Robert A. Widdicombe and H. de Joannis.

The tellers immediately proceeded to their work, and the secretary announced the result of the election as follows:

The officers for 1911-12 are: President, S. R. Lewis, vice-president, J. M. Stannard; secretary, W. L. Bronaugh; treasurer, August Kehm; Board of Governors, N. L. Patterson, Edward F. Capron, George M. Getschow.

The chapter is to be congratulated on its selections. Ex-Secretary Newport received many congratulations on the efficient manner in which he filled the post vacated by Mr. Hale.

Various escorts were provided for the new officers, who on formal installation tendered the society their thanks for the honors conferred on them by the chapter, and expressed their determination to further its interests.

The following applications for membership were received and approved: A. F. Cameron, W. H. Cameron, A. H. Schroth, and John D. Small, all of Chicago.

The meeting then resolved itself into an open forum for the discussion of ways and means of extending the influence of the chapter and adding to the number of its members. It was decided, among other things, to make the November meeting of special interest by devoting it to a consideration of hot-water auxiliary devices. President Lewis and Secretary Bronaugh extend to all members of the chapter a special invitation to this meeting. It is expected that the attendance will be large, and much valuable discussion on hot-water heating subjects will be presented.

No member being able to present further excuse for absenting himself from his home lodge, the meeting then adjourned.

PLUMBING AND SEWERAGE SUPPLIES NEEDED IN TOKYO, JAPAN.

Before the opening of the World's Exposition to be held in Tokyo, Japan, in 1917, in commemoration of the 50th anniversary of the crowning of the Mikado, the Japanese authorities have decided to install a complete system of modern sanitary sewerage, modeled after that of modern Western cities, writes United States Consul Thomas Sammons, of Yokohama. As the area of Tokyo is one of the largest of the cities in the world, such a complete system of sewerage would require many thousand feet of sewer pipe. The mayor of Tokyo, Y. Ozaki, informs me that approximately $17,000,000 to $20,000,000 will be spent in this improvement, and that the Tokyo system will be composite in nature, embodying the most suitable features of many cities. It is probable that the Tokyo system, however, will resemble the Berlin sewerage system in many essential features.

The proper authorities to address regarding the introduction of articles for the sanitation enterprise are K. Inuzuka, Chief of the Bureau of Public Works, Home Department, Tokyo, and the Department of Public Works, City Office, Tokyo.

Before attempting to introduce American products into Japan suitable for sanitation of cities, patents should be properly registered according to Japanese law. The Chief of the Patent Bureau at Tokyo will furnish all desired information in this respect.

FOR UNIFORM SIZES AND SHAPES OF CATALOGS.

If American manufacturers and exporters would adopt some system whereby there might be more uniformity in the size and shape of their catalogs these would prove much more useful to the buyer, and fewer would find the waste basket, writes United States Consul Alfred A. Winslow. At present most manufacturers seem to have their own idea of what is appropriate in this line, so that there is an endless number of sizes and shapes included in the collection of catalogs now on file in this consulate, with the result that the files are very irregular in appearance, and inconvenient to refer to.

It would seem that four or five sizes and shapes should be ample to cover the field if the matter were carefully gone over by the members of the American manufacturers' associations and general attention called to the importance of this matter. The following sizes might cover the field: 3 by 8 in. for small catalogs and folders; 6 by 8 in. for the medium catalogs; 8 by 9 in. for the standard size; 8 by 12 in. for another size, with possibly an additional size for extreme necessities. The printed matter could be arranged either way on the page to suit the subject and the taste of the compiler.

If some such system were adopted it would be profitable and much more convenient for all concerned. This should be carefully considered by all manufacturers and exporters, because a catalog sent out not of size or shape to file with other catalogs is often dropped into the waste basket at once, or is put away and forgotten.

Neat catalogs and price lists count for much in the export business, but it would seem that uniformity in size and shape need not interfere with neatness and appropriateness of style. It is better to use a little more or a little less paper rather than to have the catalog thrown away after so much time and money has been spent on it.

TRADE LITERATURE RECEIVED THIS WEEK.

The Buffum Tool Co. has issued section G of its catalog No. 1, devoted to high-grade tools for high-grade workmen. The index reveals a wide range of choice. The illustrations are exceptionally good and the specifications are very complete. Practically every type of tool required by the plumber in his everyday work is presented. One of the most interesting lines is the "Neerups" pipe-reamer, for removing burrs from the inside of pipe after cutting. The new catalog is 32 pages in extent, and is well worth possessing. It can be obtained upon application to the company, mentioning "Domestic Engineering."

The American District Steam Co. is sending to the trade a price-list of its general supplies and specialties for plumbers and heating-engineers. These comprise special apparatus for every kind of high and low-pressure work. Worthy of special mention are the single and double expansion variators, iron body expansion joints, boosters, and fittings of every type for every purpose. This book comprises over 200 pages covered with illustrated descriptions of encyclopedic character, and should prove of distinct service to those engaged in the heating industry. It can be obtained upon application to the American District Steam Co., Lockport, N. Y. When you write, mention "Domestic Engineering."

The Dayton Pump & Mfg. Co., Dayton, O., in its Bulletin No. 30, illustrates and describes its automatic electric water-lift, for bath-room water-supply. This pneumatic water-supply system is particularly well adapted for supplying soft water for bath-room and laundry purposes where the city or artesian water is hard or otherwise unfit for domestic use. It has been designed with special reference for use in residences having one bath-room and the usual plumbing fixtures. The automatic electric water-lift has a pumping capacity of 120 gal. per hour. It will suit any service conditions where the vertical lift does not exceed 22 ft. It automatically maintains an even pressure of from 30 to 35 lb. and delivers the water under sufficient pressure to the bath-room, laundry and kitchen fixtures. It is self-regulating, an electric pressure-switch regulating the starting and stopping of the motor and pump according to the pressure secured. It is motor-driven, at a low cost of operation, and is adaptable for service wherever electric current is available. Copy of the leaflet can be obtained from the Dayton Pump & Mfg. Co.

A BOOK OF VALUE TO THE TRADE.

One of the most useful books ever gotten up for the use of the trade in selling pneumatic water systems is the "Question of Water," illustrating and describing the different styles of plants to be had, and bringing up numerous selling arguments to aid the owner in making up his mind.

The book is richly illustrated in two colors, there being no less than 60 illustrations in its 32 pages. The selling arguments are convincing and the illustrations of the different outfits make it easy to show the customer what he will get.

So necessary has this book become as an aid to the plumber in selling water systems, that it has been necessary to print another edition, which makes a total of 60,000 books so far issued.

No charge is made for this book, and it is desired that every plumber who is now selling or expects to sell pneumatic water systems, should have a copy. The Leader Iron Works, Decatur, Ill., and Owego, N. Y., will comply with your request for this book if you will mention "Domestic Engineering" when writing.

AN INTERESTING WATER-SUPPLY EXHIBIT.

It takes brains to create business. Give a man without brains a thousand bath-tubs and put him in the middle of them and he has as much chance of making money with them as a snowball has of retaining its integrity in the infernal regions.

The illustration shows a particularly brain-interesting effusion of the K. D. Horrall Hardware Co., Olney, Ill. K. D. Horrall in the year of 1856 set up a business in Olney,

Exterior of the K. D. Horrall Hardware Co.'s Exhibit at the Richmond County Fair.

Ill. He was a sanitarian "in esse," and catered to the sanitary and domestic needs of the town. He retired from business May 24, 1909, and was succeeded by the K. D. Horrall Hardware Co., which is composed of an up-to-date "posse" of A., W. L. and H. C. Horrall, the three being in one. The company until recently had branch stores at Bridgeport, Ill., and Lawrenceville, Ill. The Bridgeport branch has just been disposed of to the Mullinax-Lewis Hardware Co.

The stores in Olney and Lawrenceville, besides doing a general hardware business, do all kinds of plumbing, heating, gas-fitting, tin and iron work. A large force of experienced men is employed in this department, and the company reports more heating and plumbing contracts than at any time in its history.

The photograph shows the exterior and interior views of the attractive exhibit at the Richmond County fair. To this fair the agricultural district surrounding the town sent its most promising young men and most attractive young women, and the hope of all sanitarians lies in the proper pairing of these, so we must give them due attention. The K. D. Horrall Hardware Co., with commendable foresight, designed this exhibit and showed a complete "Leader" water-supply system, manufactured by the Leader Iron Works, Decatur, Ill., connected to different household fixtures. It was a working exhibit, and many a sunbonnet felt tempted to use the faucet in the bath-tub as a bubbling fountain. Anyway, everybody was interested. It revealed to many of the farmers the possibilities of having city comforts in country homes, and the Horrall company has already received many intimations of possible business in the near future. All of which goes to prove that if one makes a proper display of things one can sell them, but the best goods stored up in a dark cellar aren't worth the price of coffee and doughnuts. Other plumbers catering to the needs of rural districts can follow the example of the Horrall concern with profit.

"HOT BLAST HEATING & VENTILATING OUTFITS."

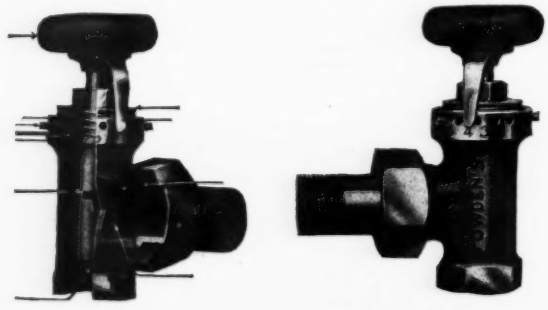
In a 94-page book bearing the title "Heating & Ventilating," the Green Fuel Economizer Co., of Matteawan, N. Y., has brought together the information required for the designing and proportioning of hot-blast outfits for heating, ventilating, drying, etc. The book contains some two or three dozen tables of temperatures required in rooms for various purposes; heat transmission through building materials; heat given off by occupants and by lights; standard sizes of hot-blast heaters; frictional resistance of air washers; relative humidities; humidities and temperatures throughout the United States; amounts of air required for ventilation; equivalent air pressures, velocities and horse powers; total weight of air at various barometers and temperatures; pressure and power consumed in friction; speed, capacity and power of steel

The Attractive Exhibit of the K. D. Horrall Hardware Co., Olney, Ill., at the Richmond County Fair.

plate fans; friction of air through hot-blast coils, etc. The text takes up not only the usual details relating to the construction of fans, heaters and heating and ventilating systems, but also the calculation and designing of piping systems, giving for the latter two methods differing somewhat, viz.: that used in the office of the supervising architects at Washington, and that proposed by Riltschel and covering the resistance of sheet iron pipes and of angles, bends, branches, grills or registers, etc. There is also a chapter on the loss of head of air flowing through orifices and equivalent orifices, in which is presented a method of combining the resistances of ducts in parallel and series connections analagous to the Ohm's and Kirchoff's laws for electrical circuits. Another chapter gives the results of an extensive series of tests upon Green's Positivflo steam heating coils, by means of which heaters of suitable sizes may be selected for any given duty. The general illustrations of the book include not only views of buildings equipped with heating and ventilating apparatus built by the Green Fuel Economizer Co., but also detailed plans, elevations and "ghost" views showing the actual arrangement of the fans, heaters, piping, outlets, etc. Copies of this book will be sent upon request to architects, heating and ventilating engineers, and others concerned with the purchase, design, or operation of heating plants. In writing kindly mention "Domestic Engineering."

THE "SECURITY" VALVES.

Wm. T. Fowden, Third and Concord streets, Chester, Pa., has just issued a four-page illustrated folder that describes his "Security" blow-off valve. This valve has a full, round opening, has no packing to blow out or stick, and it is claimed that the operator is absolutely sure of getting rid of scale or other sedimentary deposits without any fear of injuring the seat of the valve. The claim is also made that it is the only valve on the market that can be made with four separate outlets from one inlet. This conical form of valve has an angle cylindrical opening through the valve. The seats are covered whether the valve is opened or closed, and it gives a positive shut-off.



Interior and Exterior Views of the "Security" Blow-Off Valve.

The "Security" regulating vapor-valve is for atmospheric or vapor-heating systems, and can be used with any standard make of boilers and radiators. It is designed to supply steam in any quantities at any time to the radiators of the system. The inventor claims for it the advantages of absence of pressure, reduction of pipe-sizes, accessibility of the valve port-holes for cleaning, flexibility of heat-control, ease of operation and adaptability of use on direct, indirect and direct-indirect heating systems.

An illustrated study of these devices is given in the folder, which can be obtained upon application to Wm. T. Fowden at the above address. In writing for these mention "Domestic Engineering."

The Kind.

"Don't take that fellow on your football team; he's a chronic grouch."

"But what we want is a good kicker."—Baltimore American.

NEW ENGLAND NOTES.

Massachusetts.

Lee.—M. H. Hayes has been awarded a contract for the steam-fitting and plumbing in George Westinghouse's new residence on Stockbridge street.

Westfield.—The contract for installing the plumbing, heating and ventilating apparatus at the town-hall has been awarded to Luke S. Dunn, of Main street. Work is to be started at once.

South Framingham.—Isabelle A. Walker, of Sudbury, has petitioned the probate court for permission to administer the estate of her brother, Samuel N. Smart, a Boston plumber, who she says disappeared on September 1, 1880, and has never since been heard from. The estate is valued at a few hundred dollars.

Boston.—Referee Olmstead in the United States bankruptcy court has appointed George W. Reed receiver for James P. Dwyer, a Kneeland street plumber and steamfitter, against whom involuntary bankruptcy proceedings were established some time ago. The receiver has qualified under bonds of $10,000.

Holliston.—Adams & Co. have been awarded the contract for heating and ventilating the Andrews school building on School street.

Southbridge.—C. G. Winter's men will be busy for some time to come as he has many contracts in hand, among them the following: Plumbing in a six-tenement house for Morris A. Green; plumbing in the Giroux house on Mechanic street; steam-heating and plumbing in Eugene Idle's new residence; steam-heating in Harrington Cutlery Co's. new factory addition; steam-heating in J. B. Dragon's building on Worcester street and steam-heating in P. A. Quevillon's house on Main street.

Holyoke.—The Holyoke Turn Verein has placed a contract for installing a new steam-heating plant in its hall on Bridge street with the Holyoke Valve & Hydrant Co. The contract-price is about $3,000.

Lowell.—Demarais & Bourrett, plumbers, have the following contracts under way at the present time: Plumbing in a three-tenement house on Mt. Hope street for John Sawyer; plumbing in a six-tenement house on Melvin street for A. Jean; plumbing in a six-tenement house on Cheever street for Omer Deziel; installing a new steam-heating plant in residence and store of Edgar LaPlante on Cumberland road; heating-plant in house of Calixte LeQuinn on Dalton street and similar work in the house of Alphonse Noel on Riverside street.

Springfield.—The plumbing establishment of the J. J. Cotter Co. on Dwight street was badly damaged by fire recently. The cause of the fire is something of a mystery.

Fitchburg.—Frederick H. Houghton, agent of the board of health, has resigned and Inspector of Plumbing John F. Bresnahan has been put in his place. The position of plumbing inspector is being filled by Carl Jenna, who acted in that capacity during Mr. Bresnahan's vacation.

Connecticut.

Bridgeport.—Hebermehl Bros. have the contract for plumbing and metal work in the new moving-picture theater which is being erected on Union avenue for Conrad Hockenberger.

New Haven.—Thomas W. Corbett, who conducts a plumbing establishment on Broadway, is seriously ill at his home on Whalley avenue.

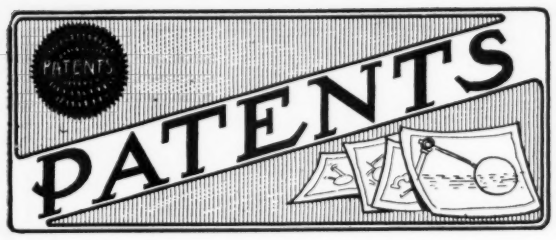
Torrington.—H. H. Wilcox has the contract for the plumbing in the new store and tenement block which is being erected on Farnham avenue for Julius Stoeckert.

Bridgeport.—J. Reilly, jr., has the contract for plumbing and heating the new residence which is being erected on Clinton avenue, for A. H. MacKenzie.

Torrington.—W. H. Morrison has been awarded the contract for the plumbing in the six new factory buildings being erected in Southington by Peck, Snow & Wilcox; the plumbing in the new warehouse of the American Tobacco Co., in Wetogue; plumbing and heating in the new offices of the Southern New England Telephone Co., in Litchfield; heating in the office of the Henday Machine Co.; heating in J. P. Weston's house on Pear street, and heating in William Trumbull's house in Litchfield.

Waterbury.—The W. S. Carberry Co., Inc., is installing the plumbing in C. S. Woodward's house on Over street.

Bristol.—Roberts & Arnold have the contract for the plumbing in connection with the two-family house which is being erected on North street for George Vanasse.



Plumbing Department.

1,003,555. Flush-Valve Ball. Edward E. Walldren, Chicago, Ill. An escape-valve ball comprising a rigid upper section, a flexible lower section, and a vertical column secured to said rigid section and arranged axially within said ball, and having an enlarged head at its lower end through which a vent-opening passes.

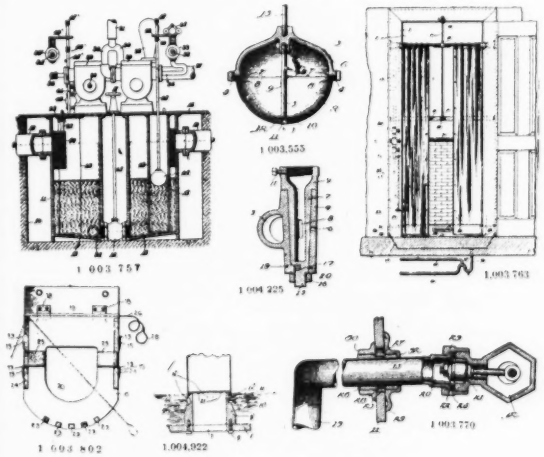
1,003,757. Control for sewage and other pumps. Justus R. Kinney, Boston, Mass. An apparatus of the character described comprising two reservoirs; a discharge-pipe rom each; a pump connected to each discharge-pipe; mechanism for driving said pumps; a valve interposed between said reservoirs and forming means for communication between them; and means controlled by the height of the liquid within said reservoirs adapted automatically and successively to start and stop said pumps.

1,003,763. Bath-closet. Richard L. Leo, New York, N. Y. In a device of the character described, a curtain, a pivoted rod adapted to hold the curtain, a portion of the rod being adapted to hold the curtain in a line with the axis of the pivot.

1,003,770. Bath-tub fitting. John M. McDonald, Dubuque, Ia., assignor to the A. Y. McDonald Mfg. Co., a copartnership. In combination with the wall of a tub or the like, a fitting entered through the same, a threaded split sleeve on the fitting at the point where it passes through the wall, and a nut threaded on each end of the sleeve and gripping the wall between them, substantially as described.

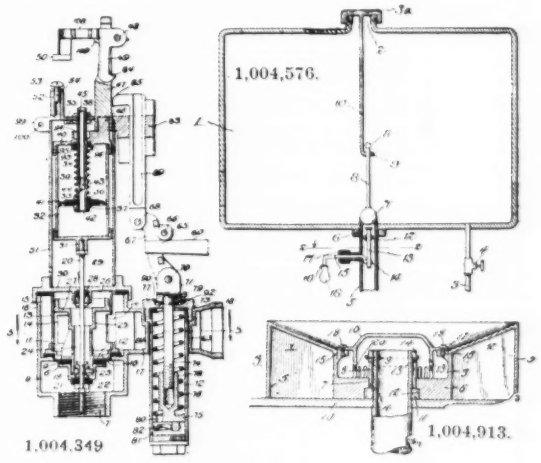
1,003,802. Water-closet seat. Willy Rosenberger, Brooklyn, N. Y. A water-closet protector comprising clamps pivotally connected to a closet seat, and a protector for said seat including a base support provided with grooves adapted to be engaged by said clamps to lock said protector to said seat.

1,004,225. Hydrant-valve. William Ziller, Austin, Tex. The combination with a main liquid pipe, a rotatable riser,



a bib connected thereto and a valve disposed in the bib and having a projecting handle, of a cylindrical valve-casing having an inlet-port in its wall communicating with the pipe and a drainage opening spaced from the inlet-port, and a hollow rotatable valve stem disposed in said casing and having an inlet-port adapted to register with either the inlet-port or the drainage-port, said stem being connected to the riser to form a continuation thereof.

1,004,922. Soldering device. Lionel P. Smith, Covington, Ky., and Julius Cantor, Cincinnati, O. A soldering device comprising a solder pan having an opening in the bottom thereof, a hollow pedestal mounted thereon and having a body portion, a neck portion at the top thereof, said neck extending upwardly from said body portion, and a plurality of lugs extending laterally from the neck portion thereof at such a distance intermediate of the top and bottom of said neck as to support the article being soldered above the pedestal and provide a passage for the flow of the solder, substantially as set forth and for the purposes specified.



1,004,349. Flushing mechanism for water-closet bowls. Bernard Bensen, Chicago, Ill. In a flushing mechanism, the combination of a movable valve member, a tripping head on the same, a bell-crank on the tripping head and provided on one arm with a finger and provided on its other arm with a contact member, an adjustable stationary lug in position to engage the contact member when the bellcrank and movable valve member are lowered to open the valve, actuating means for engaging the finger of the bellcrank to lower the same to open the valve, and a stop on the tripping head in position to engage the bellcrank to hold the same normally in position to present the finger in position to engage the actuating means, substantially as described.

1,004,576. Flushing-tank. Edward Kersey, Chicago, Ill. —The combination of a tank having an apertured boss at its top, a cap removably connected to the boss and provided with a stem extending into the tank, said stem having a guide aperture at its lower end, an outlet for the tank, and a valve controlling the outlet, said valve having a stem which is slidably mounted in the aforesaid aperture.

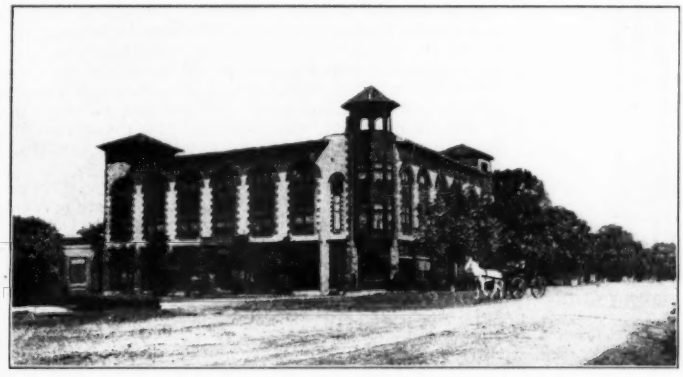
1,004,913. Refrigerator-drain. Manuel F. Salmini, Hoboken, N. J. In a drain, a casting having inwardly tapering sides, a hollow boss depending from the conjunction of said sides and having an aperture passing therethrough and a recess surrounding the aperture, a nipple threaded into said aperture and extending into the boss, a lock-nut seated in the recess, a main drain-pipe threaded into the lock-nut and passing through the nipple into the boss, means carried by the main drain-pipe and acting in conjunction with the lock-nut to form a water-tight joint between the nipple and the drain-pipe, an inverted cup shaped member mounted over the boss and having a vertically notched flange adapted to surround the nipple to act in conjunction therewith and form a water-seal.

1,004,650. Flushing-valve. George O. Hilton, Detroit, Mich., assignor to the Ideal Manufacturing Co., Detroit, Mich., a corporation of Michigan. In a flushing-valve, the combination of a vertically arranged casing having an opening at its top, an integral laterally extending tubular member within the casing terminating in a centrally arranged cylindrical part, said member being open at its respective ends, to constitute an inlet passage, an outlet passage surrounding the cylindrical part of said member, the wall of the casing having a vertically extending restricted opening communicating with a laterally extending opening leading into the inlet passage, an adjustable valve

SO interesting do we consider the advertisement on the opposite page that we did not desire to have the attention of the reader distracted by any reading or advertising matter on this page.

UNITED STATES RADIATOR CORPORATION

How Capitol Boilers Meet Emergencies



Midway Hotel, Kearney, Neb.

In the town of Kearney, Nebraska, there is a hotel called the "Midway." In the year 1905, a very large Heavy Duty Cast Iron Capitol Boiler was installed to replace two steel tubular boilers. In the winter of 1908-9, after four years of satisfaction, a careless janitor allowed the water to get too low in the boiler, resulting in excessive strain which cracked one section—and that, really, a half-section. (Bear in mind that the same carelessness in the case of the steel boiler would have caused an explosion that would have wrecked the building and killed many people.)

It is to the way that the Capitol Boiler met the emergency that we want to direct your attention. Remember that it was in the depth of winter—the hotel was full of guests—every minute was precious. We will let Mr. Denison, proprietor of the hotel, tell of this situation in his own words, as conveyed to us in a letter dated January 4th, 1910.

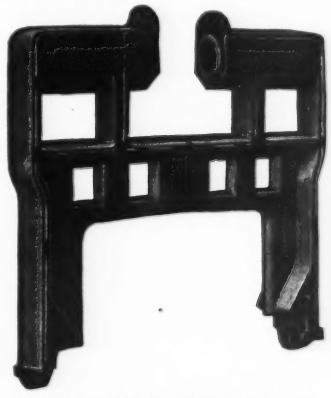
"Gentlemen: I have been using a Capitol Boiler for the past four years. About a year ago we discovered a leak in one section: we immediately pulled the fire out, allowing the boiler to cool off, and phoned for the plumber, who with a few strong men to assist him, took the cracked section out, plugged the two connections with well fitting wooden plugs then placed the plugged sections to their original places and immediately started a fire again. The time consumed in this work was between an hour and an hour and a half. We run this way until warm weather without any material change of heating the hotel, then replaced a new section. This cracked section was caused by the firemen letting the water get too low in the boiler and then letting in cold water before allowing the boiler to cool off. This is the only trouble we have had in four years we have been using the Capitol Boiler.

Yours very truly,
L. A. DENISON, Prop.
Midway Hotel,
Kearney, Neb.

The divided sectional feature of Capitol Sectional Boilers made this "quick repair" possible. No other boiler manufactured can be as quickly and economically repaired as the *CAPITOL*. No other boiler manufactured is so free from accidents of this sort, due to the relief afforded by the divided sections from the strain of contraction and expansion.

You specify "Boiler Insurance" when you specify *CAPITOL DIVIDED SECTIONAL BOILERS.*

A Special Booklet on the Divided Sectiona. Boiler furnished on request



Showing Divided Sections in Capital Sectional Boilers

UNITED STATES RADIATOR CORPORATION

THE COMPLETE LINE UNITED STATES BOILERS RADIATORS SUPPLIES

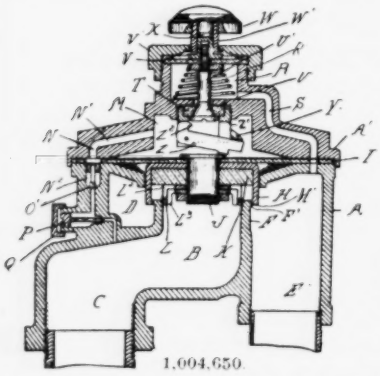
General Offices, Detroit, Michigan

Branches and Showrooms Located in

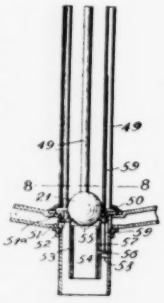
NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA PITTSBURGH, DETROIT, CHICAGO, ST. LOUIS, OMAHA, MINNEAPOLIS KANSAS CITY WASHINGTON

Manufacturers of "THE COMPLETE LINE" of United States Boilers.

for the laterally extending opening, said vertically extending opening being enlarged to provide a valve seat, a check valve positioned on said seat, a diaphragm extending over the top of the casing and having an opening registering with the vertically extending opening and an auxiliary opening registering with the outlet passage, a valve carried by the diaphragm for the outlet passage, a cover for the casing, and an auxiliary valve controlling the passage through the diaphragm to the outlet passage.



1,004,650.

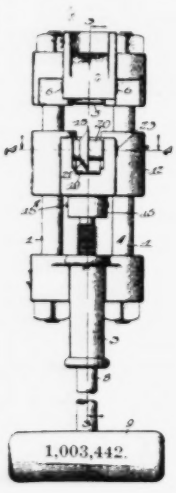


1,004,707.

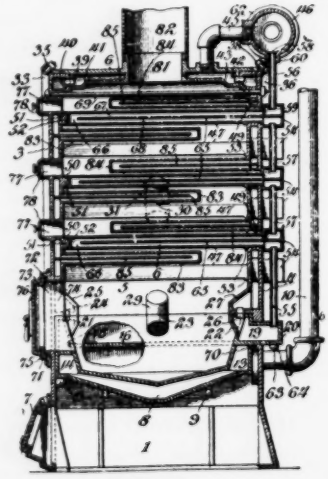
1,004,707. Flushing-tank. William G. Stewart, Cleveland, O. The combination of a tank having an outlet connection extending from the bottom thereof and provided with a seat, a valve adapted to float in the liquid contained in said tank and to engage said seat, a member reciprocable within said connection and adapted to engage the lower portion of the valve to unseat the same, an overflow tube communicating with said connection and partially overhanging the same, an operating lever, and a connection extending from said lever through said tube and into the outlet connection and having its lower end operatively connected to the reciprocable member.

Heating Department.

1,003,442. Pipe-cutter. Ragnvald Eck, Chicago, Ill., assignor of one-half to William P. Crockett, Chicago, Ill., and one-half to The Eck Tool Co., Chicago, Ill., a corporation of Illinois. In a pipe-cutter, a frame comprising a plurality of substantially parallel rods rigidly connected at their ends, a projection at one end of said rods to engage the work and hold the frame at right angles thereto,



1,003,442.



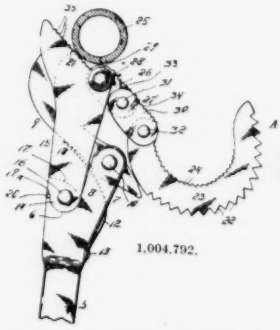
1,004,042.

a member mounted upon said rods for movement longitudinally thereof and carrying a single rotatable cutting-disk with the axis of said disk slightly inclined to the common plane of the rods and to the axis of the work, and means for controlling the position of said member upon the rods.

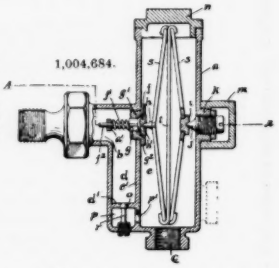
1,004,042. Heater. Henry J. Lange, Lorain, O. The combination of a hollow grate section, hollow front and rear walls supported upon the grate section and communicating therewith at their lower ends, hollow side walls arranged between and secured to the front and rear walls and forming a rectangular casing, said side walls being also supported upon the grate section and communicating therewith at their lower ends, and a hollow top or dome supported upon the side walls between the front and rear walls and communicating at the bottom with the side walls and at the top with the front and rear walls.

1,004,792. Pipe-wrench. William Louis Bessolo, Denver, Colo. The combination of a handle, a jaw mounted to have a limited degree of rocking movement thereon, and the handle having a bifurcated extension beyond the pivot of the jaw, a pawl pivotally connected with the handle extension and located between the arms of its bifurcated portion, the pawl being spring-actuated and the rocking-jaw being also bifurcated to allow the pawl to pass between its members, and a second jaw pivotally connected with the first named jaw and exteriorly toothed to receive the pawl, substantially as described.

1,004,684. Thermostatic-valve device. Edward W. Comfort, Camden, N. J., assignor to Warren Webster & Co., a corporation of New Jersey. In a thermostatic-valve, the combination of a body having a main chamber provided with the outlet, and a preliminary chamber provided with the inlet and forming a pocket extending below the inlet for the interception of dirt, a wall between said chambers, the wall between the main chamber and preliminary chamber being provided with the thoroughfare between



1,004,792.



1,004,684.

the inlet and outlet located adjacent to the inlet, a valve-piece controlling said thoroughfare, a thermostat extending longitudinally in the main chamber and having its central portion on one side acting on and supported by said valve-piece, and a supporting pin at substantially the middle of the outer side of the wall of the main chamber acting upon and supporting the thermostat at its central portion on its other side.

Women's Superior Intelligence.

"Why do you consider women superior to men in intelligence?"

"A bald-headed man buys hair restorer by the quart, doesn't he?"

"Er-yes."

"Well, a woman doesn't waste time on a hair restorer; she buys hair."

He Looked It.

A lawyer of Omaha entered an eating-house and was immediately approached by a waiter, who observed cheerfully, "I have frog's legs, deviled kidneys, pigs' feet, and calves' brains." "Well," said the lawyer sternly, "you look it, but what's that to me? I came to eat."

It Pays to Tell the Truth.

St. Peter (to applicant)—What was your business when on earth?

Applicant—Editor of a newspaper.

St. Peter—Big circulation, of course?

Applicant—No, small; smallest in the country.

St. Peter—Pick out your harp.